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JOINT ARMY NAVY
INTELLIGENCE STUDY

EUROPEAN
U.S.S.R.
GAZETTEER AND MAP
APPRAISAL

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Chapter XIII

MAP APPRAISAL

Prepared by Map Research Section, Army Map Service,
Office of the Chief of Engineers; and by Map
Intelligence Division, Research and Intelligence
Organization, Department of State

130. GAZETTEER

Names of physical and cultural features appearing in JANIS 40, European USSR are those recommended by the United States Board on Geographic Names. These names are incorporated in the Preliminary NIS Gazetteer: USSR.

131. MAP APPRAISAL

Cartography in Russia may be divided into two eras:
1) The period under the Tsarist Regime prior to 1919, and,
2) The period of the Russian Soviet Federated Socialist Republic dating from the revolution to the present.

Political disruptions in Russia have resulted in many changes of cartographic policies. The year 1919 is selected as the dividing line of mapping eras inasmuch as that year marked the beginning of the first major change-over in Russian cartographic, geodetic, and topographic policies.

A. General topographic maps

(1) First era

For nearly a century (1816-1910) prior to 1919, mapping of Tsarist Russia was desultory, uncoordinated, and without far-sighted planning for continuity.

Triangulation was performed by the Tsarist Corps of Military Topographers, only as required sectionally, without planned consideration for the preservation of network bench marks. Apparently a vast majority of the bench marks, developed over scores of years, were completely lost because of improper security.

About 28,000 miles of triangulation leveling were accomplished and 3,900 astronomical positions were determined; yet of this considerable volume of data collected, probably less than 2,000 miles of leveling was usable later and only a few astronomical definitions have survived*.

It is claimed that the only survey data taken over and used by the Soviets were those of the last ten years for certain areas including the triangulation network in the Caucasus.

Included in the following study are topographic maps published under the direction of the Corps of Military Topographers (known as K.V.T. prior to 1919), with longi-

tudes variously based on Pulkovo, Paris, or Ferro. Because of the general obsolescence of the older *verst*** sheets, series published contemporarily by other than Russian authorities are not mentioned.

(a) *Maps at scale of 1:420,000: European Russia, 1:420,000, K.V.T.*

1. DESCRIPTION.—This ten-*verst* set covered all of European Russia. As the series was constructed on Gauss's conical projection using Meridian Pulkovo with standard parallels 40° and 59°, there is considerable distortion of distances near the sheet edges.

Individual maps cover an area of approximately 3°30' E-W and 2° N-S.

The actual source of the compilation and of the survey base is not indicated. Probably the old 1:42,000 one-*verst* survey was used because the required reduction of sheet lines fitted exactly.

Originally the maps were steel-engraved monochromes, but as early as 1875 certain ones were printed in five colors.

Relief is shown by hachures, augmented with spot elevations. The vertical datum was based on the tide gage at Kronstadt.

Vegetation is portrayed by solid green overprinting without classification. Hydrography is shown in the usual manner with water-lining added.

Urban areas are outlined and line-striped to scale. Buildings are shown in solid black. The population breakdown, shown in legends of earlier sheets, is classified according to size and style of type, as well as by the number of buildings in communities. Later editions show populations of communities in figures on the face of the map.

Transportation facilities and utility lines are classified.

The individual maps were originally designated by Arabic numbers, but as the series expanded, the addition of Roman numerals and capital letters was required.

The lower margins of the maps include fairly comprehensive general symbol legend and the *verst*-fractional scale.

2. EVALUATION.—Several facts contribute to the obsolescence of the above series: the impracticability of reconciling sheet lines and distance values to modern projections, the haphazard methods of Tsarist sectional surveys, the differences in control datum values, the poor physical representation, and especially the general antiquity of the series.

* According to a report by the Soviet State Geodetic Service, 1944.

** One *verst* equals 3,500 feet or 42,000 inches.

(b) *Maps at scale of 1:126,000: European Russia, 1:126,000, K.V.T.*

1. DESCRIPTION.—The three-*verst* maps were an independent series from several viewpoints. Having been constructed on Bonne's projection, with Meridian Pulkovo, distances were true only at the intersection of the central parallel which was 55° N.

Individual sheets cover an area of approximately 1°20' E – W and 27' N – S.

Original nineteenth-century editions were steel-engraved monochromes, while later Soviet-revised editions were multicolored lithographs.

Meridians referring to Paris are ticked along the north and south neatlines of each map.

Original coverage included most of the territory within the scope of this report with the exception of a few large areas in the northeast.

Relief is shown by hachures with occasional spot heights given in *sazhens**.

Hydrographic drafting is orthodox. Vegetation is symbolized without classification.

Urban areas are outlined to scale with population figures added. Buildings are shown in solid black.

Roads and railroads are indicated without classification.

Later editions show a substantial amount of revision, particularly in communication alinement and hydrographic positions.

2. EVALUATION.—As can be seen from the above description, the reliability of this set is very doubtful. The unequal values of the Bonne projection, together with hachured relief and general inaccuracies, make the map series a questionable source of information.

(c) *Maps at scale of 1:84,000: European Russia, 1:84,000, K.V.T.*

1. DESCRIPTION.—This set is a two-*verst* intermediary scale map series, originally published just before and during World War I.

The maps were compiled from the older 1:21,000 and 1:42,000 K.V.T. sheets, in conjunction with a special survey made by Mende covering eight administrative areas.

The projection was polyhedral, as described in 131, A, (1), (e), 1.

Two sheet sizes were used, covering areas 20' N – S by 30' E – W and 15' N – S by 27' E – W.

The first editions were monochromes, followed later by multicolor printing.

Relief is shown by contours at intervals of four *sazhens*, controlled by spot elevations and triangulation points.

The general representation agrees with that of the 1:126,000 series described in 131, A, (1), (b), 1.

Sheets published during and after World War I carry a military grid. No legend is given.

2. EVALUATION.—Inasmuch as more accurate and informative sheets of much later date were published and are available, the two-*verst* series is interesting only from a historical viewpoint and does not hold a front-line position in the array of modern, reliable maps.

(d) *Maps at scale of 1:42,000: European Russia, 1:42,000, K.V.T.*

1. DESCRIPTION.—The one-*verst* maps were constructed on the polyhedral projection and covered an area 15' N – S by 10' E – W.

Originally the printing was in monochrome; however, the productions revised by the Soviets were multicolored and were later used as a base for the 1:50,000 set described later in this study.

* One *sazhen* is equivalent to seven feet.

Relief is shown by contour lines at intervals of two and four *sazhens*, coordinated to spot elevations and triangulation points.

Source for compilation is not indicated, but, inasmuch as the one-*verst* scale was one of the primary survey bases, it is assumed that the sheets were compiled directly from field work.

The general representation is similar to that of the 1:84,000 series described in 131, A, (1), (c), 1.

2. EVALUATION.—Time has definitely nullified any reliability of the original one-*verst* map. Probably the relief and drainage of many of the revised maps published later by the Soviets were fairly well done, but here again, the value of this set is overshadowed by later highly revised 1:50,000 maps covering the same area.

(e) *Maps at scale of 1:21,000: European Russia, 1:21,000, K.V.T.*

1. DESCRIPTION.—These maps, known as the one-half-*verst* field sheets, were constructed on a polyhedral projection. The sheet corners were calculated separately for each map, which produced an overlap on the adjoining sheet. The essential difference between this and the polyconic projection is that the north and south lines are drawn as a straight line connecting sheet corners, rather than following a true parallel.

Individual maps of this set cover an area 7'15" E – W by 5' N – S. While the base source is not explained, they were probably compiled from original surveys of the same scale.

The maps do not appear in continuous series, but apparently were prepared for important areas near large cities.

Relief is shown by contours at intervals of two *sazhens*, supplemented by spot elevations and triangulation points.

The general presentation, while embracing more detail, is comparable to the description of the 1:84,000 set given in 131, A, (1), (c), 1.

2. EVALUATION.—While the polyhedral projection used is sound and presents no difficulty in recompilation, physical changes over the long lapse of time, plus doubtful accuracy of the original preparation, relegate this series to the collector's folio.

(2) Second era

On March 5, 1919, following the historic revolution, the Council of People's Commissars issued a decree, signed by Lenin, creating the Supreme Geodetic Administration (V.G.U.). It was the task of this organization to make an exhaustive topographic study of all of the USSR, with the idea of bringing about a definite improvement in the development of economic possibilities.

The highly optimistic decree authorized the V.G.U. program as follows:

- 1) Unification and coordination of the geodetic activity of all agencies of the republics.
- 2) Unification of all surveys in order to compile and publish maps of nation-wide importance at various scales. This necessitated elimination of duplication, and the collection, and collation of all data resulting from astronomical, geodetic, and topographic surveys.
- 3) Formulation of specifications and policies for the standardization of cartographic methods, computations, preparations, and publications.

The Administration was unable to support the decree by providing modern cartographic equipment or experienced specialists, nor would it give V.G.U. top authority for the project over equally powerful agencies which also sought recognition.

As a result, the intent of the original edict was lost amid the ensuing struggle for control, and no single top agency was able to make cartographic headway until many years later.

In the meantime, starting with V.G.U., one after another of the various top cartographic administrations succumbed in the scramble for power.

Eventually, in 1939, all map-producing agencies employing civilian personnel were placed under the jurisdiction of the Chief, Administration of Geodesy and Cartography, (G.U.G.K.). Parallel to this political group, the Military Topographic Division of the General Staff, Red Army, functioned independently. Obviously, during World War II and in the period preceding it, these two top authorities worked, and still work, in full cooperation.

While some standard-scale sheets appeared that were of necessity compiled from old material, generally, from 1939 forward General Staff Red Army maps of European USSR are of sound basis, apparently the result of able cartography.

Many of the maps described later may have a good reliability rating, but it must be remembered that certain military or critical information has likely been withheld. This is evidenced by a comparison of German photo- and field-revised sheets with their USSR prototypes. This policy of withholding critical information in map compilation is further confirmed by the secret Soviet order of 5 September 1940 entitled, "Chief Administration for Geodesy and Cartography, General Instructions on Map-Making."

Because of the magnitude of an exhaustive map appraisal of all scales by all authorities, it will be the policy in this section to review only later-date standard maps which show a substantial coverage available in the AMS library. Maps published by other than USSR authorities will be appraised according to a selection based on comparable value.

(a) Maps at scale of 1:1,000,000

1. EUROPEAN USSR, 1:1,000,000, GENERAL STAFF, RED ARMY

a. Description.—The State Map of the RSFSR, published by G.U.G.K. and the General Staff, Red Army, after 1939, is constructed on the altered polyconic projection, Prime Meridian Greenwich, in accordance with standard International Map of the World practice.

The maps cover an area 6° E–W by 4° N–S, excepting those falling above the sixtieth north parallel, which are usually printed in pairs to include 12° E–W. Individual maps are identified with a letter according to latitude and a number according to longitude. They are also named after the most important urban area within the sheet lines. Example: The sheet falling in area 56° to 60° N and 30° to 36° E is named *Leningrad* and is numbered 0-36.

In the color representation black indicates culture symbols, nomenclature, communications; brown, first-class roads; blue, hydrography; gray, relief; green, woodland; orange, graticule grid net.

Relief is shown with labelled contour lines at 50-meter intervals, augmented by first-order triangulation points and occasional spot elevations.

Hydrographic representation is orthodox. Shorelines and narrow streams receive the dark blue color; large rivers and lakes are light blue. The break-down includes canals and swamp areas. Vegetation appears in solid green tint, classified simply as woodland.

In the legend, urban areas are classified in eight categories, according to a combination of symbols and type,

which indicate urban population ranging from the smallest villages through cities of more than 75,000 inhabitants and which distinguish administrative centers.

Communications are classified as follows: four types of railroads are indicated: double track, single track, narrow-gauge lines, and those under construction. Three classes of roads are shown: main highways, gravelled and improved dirt roads, and dirt roads.

Maps are line-cut with a numbered and referenced graticule net coordinated to the geographical grid.

Boundary lines include political and administrative demarcations from international down to okrug.

In the border of each map, aside from the sheet designation and publishing authority, are found: a comprehensive symbol legend, an index to adjoining sheets diagram, a standard kilometer bar scale, an index to boundaries diagram, and a credit note which, in many cases, lists all source compilation material.

Type face and style used in nomenclature is a fairly legible, roman bold variety in both verticals and italics.

The above description applies directly to the later sheets of the series on file at Army Map Service, published between 1939 and 1944. Previous editions, published by various civilian agencies somewhat responsible to the General Staff, Red Army, present some differences in representation, but are, in general, of the same type.

A few sheets published directly by G.U.G.K., during this time, have hypsometric layer tints as a relief feature and indicate a variety of vegetation cover. Also, the nomenclature is completely revised by the use of modern gothic type faces.

In production of this wartime series, drafting skill was sacrificed to speed, and the poor quality of paper stock used in printing did not add to the quality of the finished maps.

b. Evaluation.—This so-called *State Map* received special consideration from the topmost Soviet cartographers. Under their influence it was developed from a common general-utility map to the top spot of all Soviet cartographic work.

While certain vital information such as airfields and communications has been omitted, as a base source at the scale involved, the USSR 1:1,000,000 Red Army Map stands alone.

2. EUROPE, 1:1,000,000, GSGS, 2758

a. Description.—This topographic million set, compiled under the direction of the Geographical Section, General Staff, British War Office, was published provisionally in several editions at the start of World War II.

Occasional differences in cartographic policy, no doubt activated by wartime expediency, account for noticeable inconsistencies between editions. However, the general description in this section pertains to the majority of sheets in the Army Map Service library.

Individual sheets were plotted on standard I.M.W. modified polyconic meridians and parallels, and covered a geographic area of 6° E–W by 4° N–S. Those sheets above the sixtieth north parallel were extended E–W to include two or more standard maps.

Sheets are designated by name and number according to I.M.W. practice. Representation, in four colors, uses: black, for symbols, railroads, nomenclature; red, roads, graticule grid references; blue, hydrography; and brown, for relief.

Contoured relief is shown at 100-meter intervals for altitudes under 200 meters, and at 200-meter intervals for altitudes above. Occasional spot elevations and triangu-

lation points are indicated. Inasmuch as maps were compiled primarily from smaller-scale sources, contouring is, of course, well generalized.

First- and second-class urban areas are outlined to scale. Five other symbols indicating relative population are shown, including one which denotes administrative importance.

Three classifications each of roads and railroads are shown.

Soviet place names are transliterated. Generics and modifiers are romanized from original Russian form and are translated in a glossary of topographical terms and abbreviations appearing in the border of each sheet.

Boundaries are referenced back to the year 1914.

Besides the usual legend, bar scales, and imprinting, the sheets carry an index to adjoining sheets diagram, an index to boundary diagram, a glossary, and a credit note listing compilation sources. Sources given, which are entirely of non-modern Russian vintage, include:

1:420,000	Special Series
1:1,050,000	Strategic Set
1:1,680,000	Hypsometric
1:2,000,000	Atlas
1:2,520,000	Communications Guide

b. Evaluation.—Comparison of individual sheets of this set with highly revised recent Soviet works reveal that factual representation is strictly outmoded.

Relief is substantially inconsistent; hydrography shows much variance in alignment and shapes; communications are either missing or inaccurate, and much detail is lacking for the scale used.

In short, the British Million set, published prior to the modern revised series, which is in compilation stage at this time, should be used with caution except as reference material.

3. SPECIAL EDITION, 1:1,000,000, GENERAL STAFF, GERMAN ARMY

a. Description.—The maps of the Special Edition follow the sheet lines of the International Map of the World, with the geographic net drawn in full degrees of longitude and latitude. Each sheet covers an area of 6° longitude and 4° latitude. In maps of the far north, two adjacent sheets were frequently printed as a single map.

In certain areas, probably deemed strategic, *Zusammen-drucke*-sheets were published, which consisted of four sheets incorporated into one. In this case a footnote qualifies the format as a combined reproduction of the four basic 1:1,000,000 Special Editions. Individual maps are identified by name, letter, and number.

The USSR 1:1,000,000 State Map was the basic source material used for all maps in the European USSR area. However, in practically all cases, this source was augmented by the use of larger-scale Soviet topographic maps and smaller-scale Soviet atlas sheets.

Relief is represented by contour lines and gradient tints. The contour interval used is 100 meters for irregular terrain and 25 meters in low areas. Numerous spot elevations appear, as well as occasional trigonometrical points.

Color representation carried by the Special Edition is: sepia for cultural features; blue, hydrography; red, roads; green, woodlands; brown, contours; and violet for boundaries. Layer tints are shown by light green, shading to dark red-brown.

USSR place names, as well as other notations and abbreviations, have been replaced with German transliterations.

Six categories of urban population are designated, also six types of administrative centers. Population symbols

range from one for villages of under 10,000 to one for cities of over 100,000.

Railroad symbols represent multiple track, single track, industrial or narrow gage, and lines under construction. Roads are shown by five categories, ranging from motor-express highway to winter trail.

Symbolic representation for the scale used is more comprehensive than in other series, including such features as factories, telegraph lines, ruins, mounds, and forest breaks.

In this set, occasional vital information appears which is omitted in the original Russian sources. While the veracity of such information is not particularly doubted, no explanation of source is quoted. In fact, it may be assumed that the revised areas of these maps are a direct result of the vast amount of aerial photography completed by the Germans over the western portion of European USSR.

Material in the map borders is comparable to that of the General Staff, Red Army, maps described in 131, A, (2), (a), 1, a.

b. Evaluation.—As a supplementary general source of information, the Special Edition German Million may be considered fairly reliable. If used for redrafting maps, however, caution should be used, because the Germans in recompiling from Soviet sources were not too accurate in portraying gages of symbols, such as width of streams, etc.

In certain areas, where aerial photography was available, communications and other planimetric information may be accepted as being more reliable than on the original USSR base maps.

(b) Maps at scale of 1:500,000

1. EUROPEAN USSR, 1:500,000, GENERAL STAFF, RED ARMY

a. Description.—Primarily known as the Military Operational Series, the 1:500,000 maps were conceived in 1933 as the result of a demand for something comparable to the outmoded but popular 1:420,000 *ten-verst* sheets.

The special requirements of the 1:500,000 map which was finally evolved were that it must fit modern sheet lines and projections; it must be sufficiently elaborate to suit the highly technical problems of the new army; and it must serve as a basis for economic development.

The area covered by each map is 3° longitude by 2° latitude. Constructed on an improved polyhedral projection, Prime Meridian Greenwich, each sheet covers one-quarter part of the I.M.W. 1:1,000,000 area in which it falls and is correspondingly named and numbered. Example: Sheet *NO-40-B* would be the northeast quarter of the 1:1,000,000 sheet *NO-40*.

Various sources for base compilation were used, depending on available material, but generally source maps at scales between and including 1:10,000 and 1:500,000 were used.

Maps are lithographed in colors: black indicates culture symbolization, roads, shorelines of bodies of water and of wide streams, railroads, nomenclature, elevations, boundary lines, sand areas; brown, contour lines; orange, main highways, graticule grid; blue, hydrography; and green, woodland.

Relief is indicated by contour lines at intervals of 40 meters. To aid in quick reading of relative relief, the lowest contour line in a series is numbered.

Size and shape of urban areas, which are drafted rather generally to scale, indicate their relative population. On later sheets, figures placed under city names apparently indicate population in hundred-thousands. Size and style

of type face used for names of smaller towns indicate their administrative importance.

Population break-down of urban areas includes nine categories ranging from cities over 500,000 to those of less than 20,000, and towns over 2,000 to those under 100.

Cultural symbolization includes important industries, agricultural works, economic institutions, collective farms, and churches.

The road symbolization break-down includes all-weather highways, improved dirt roads and those of lesser importance such as plain dirt roads and trails, all without structure or width analysis.

Double track, single track, and narrow gage or industrial, are categories of railroads which are indicated.

A noticeable variance from the usual method of depicting shorelines of lakes and double-line streams appears in this set, in that these appear in black. Otherwise, general delineation of hydrography is orthodox.

In this set of maps it seems quite apparent that an uncluttered appearance and legibility were more desirable than excessive naming of smaller urban areas and river tributaries. Generally, the maps are quite easy to read.

Many of the maps show a military grid system. Heavy orange lines enclose an area 1° longitude by 30' latitude, which in turn is subdivided, with light lines, into nine small numbered rectangles.

At the top border of the maps, from left to right, appear:

- 1) The administrative oblasts covered.
- 2) General Staff, Red Army, publishing authority.
- 3) The sheet title.
- 4) The sheet letter, number, and section.

At the lower border, from left to right, appear:

- 1) The legend, apparently tailored for each map.
- 2) An index to adjoining sheets diagram.
- 3) A bar scale, usually of 30-kilometer length.
- 4) The contour interval.
- 5) A magnetic variation note.
- 6) An index to boundaries diagram.
- 7) A credit note, indicating compilation dates and source material information.

b. Evaluation.—The planning and development of this set directly reflect its value. Within the limits of the reproduction scale, it is a well-organized general planning and military operational series. Allowing for probable Red Army omissions, the individual sheets may be considered generally reliable.

2. DEUTSCHE WELTKARTE, 1:500,000, GENERAL STAFF, GERMAN ARMY

a. Description.—This set is evidently redrafted from captured USSR 1:500,000 maps, with the same sheet lines used. The Gauss-Krüger projection was used, with Prime Meridian Greenwich, which for all practical purposes is similar to the modified polyconic projection used on the original Soviet maps.

Individual sheet names have been romanized and translated into German, and in the sheet-numbering system, NO, NE, SO, and SE, have been substituted for the Soviet quarter-sections, A, B, C, D.

While the maps are copies of captured USSR originals, scattered revisions or additions were made by the Germans just prior to printing, probably from intelligence or air reconnaissance sources.

Maps are lithographed in color: black indicates culture symbolization, roads, shorelines of bodies of water and wide streams, railroads, nomenclature, elevations, boundary lines; orange, main highways and urban areas; brown, relief; blue, hydrography and names thereof; green, woodlands; and pink, graticule grid.

Contour lines at intervals of 40 meters portray variations of relief. As on the original USSR maps, the lowest contour line in a series is numbered.

The only material differences in the German portrayal of urban areas lie in the drafting, which has been somewhat generalized, and in the color. All urban areas of populations between 2,000 and 500,000 are shown by red fill.

The population break-down varies slightly from sheet to sheet, but generally indicates classification down to villages of less than 100 inhabitants.

Roads are classified as motor highway, motor highway under construction, road with substructure, dirt road, village road, caravan route, track-trail, winter road, or forest road.

Classifications of railroads are electrically operated, double track, single track, narrow gage, under construction, planned, or abandoned.

The Germans have retained the Soviet method of showing shorelines in black for bodies of water. The single deviation from the original USSR maps lies in the names of hydrographic features, which are printed in blue in this series.

The superimposed military grid reference system is similar to the Soviet type; however, a different key reference numbering method is used.

Quite a radical change was made in the composition of map marginal information. The Germans have placed a very comprehensive symbol legend, consisting of 117 separate items, in the right-hand margin.

Below the legend appears a list of abbreviations used on the face of the map.

The lower margin carries the usual credit note, index to boundaries, 30-kilometer bar scale and index to adjoining sheets diagram. In addition, below the bar scale is a list of Gauss-Krüger grid values for the four corners of the sheet.

b. Evaluation.—It is probable that, in many instances, the Germans were able to make spot revisions of the existing USSR cartography from intelligence data or photography; however, the source used is not listed in the credit notes.

In general, spot revisions may be accepted as authentic, particularly on maps falling west of a rough line drawn as follows: beginning at a point at the extreme northwest tip of Kandalakshskaya Guba, above the Arctic Circle, running southward along the west shore of Lake Onega, veering west of Leningrad, thence generally southeasterly skirting west of Moscow, making an arc to include Stalin-grad, then southward nearly to Groznyy, then veering directly west at this point to Novorossiysk on the Black Sea.

Not only were the Germans in prolonged possession of much of this area, but their engineers and terrain specialists were systematically engaged in revising the mapping of the area of conquest from on-the-spot observation. German air reconnaissance supplied a great deal of material for map revision, even some distance east of the area of ground control, but to what extent is not known at this time.

Generally the information supplied in this map series can be accepted as reliable.

(c) Maps at scale of 1:300,000

1. SPECIAL EDITION, USSR, 1:300,000, GENERAL STAFF, GERMAN ARMY

a. Description.—This main strategic map series used by the Germans during the invasion of the USSR was published under the control of the German General Staff, in several varieties of Special Editions.

Inasmuch as all these later editions used similar geographic sheet lines, numbering systems, and base material, this description can be generally accepted for all editions under such general titles as *Deutsche Heereskarte Osteuropa*, *Übersichtskarte von Mitteleuropa*, *Sonderausgaben Nordeuropa und Osteuropa*, and subtitles as *Fliegerausgabe*, *Führungskarte*, or *Zusammendrucke*.

Together the sets cover a solid block area of European USSR extending from the western USSR boundary to 64°20' E of Greenwich between the 44th parallel on the south and the 70th parallel on the north.

Individual sheets are constructed on a Gauss-Krüger projection according to full degrees of latitude and longitude, and cover an area 2° E-W by 1° N-S. However, since the original structure of the basic 1:300,000 set was projected on Prime Meridian Ferro (17°40' W of Greenwich), the Germans apparently converted the geographic values for the later sets to fit a projection based on this meridian. The result was that the longitudinal values of each sheet fell 20' east of even degrees Greenwich.

Sheet names were taken from the most prominent populated place within the sheet lines. Sheet number indicates the latitude north of the equator in degrees, and a sheet letter indicates its longitudinal position on an arbitrary grid index. The extreme westerly limit of this arbitrary grid, labeled A, was set at 11° 40' W of Greenwich, apparently allowing sufficient longitude to clear the westerly land limits of Europe in case of an extension to the series.

Example: the map designated as *Leningrad, V-60* occupies a geographic position 28°20' E to 30°20' E and 59° to 60° N.

In printing the *Zusammendrucke* edition, several sheets were joined and published as a single map. Individual sheets of several other published sets were combinations of four or six smaller sheets. In all cases, the *Zusammendrucke* was named and numbered according to the names and number of the upper left and lower right base sheets. Examples: sheet designated X52-Y-50, *Konotop-Char'kov*, comprised of six base maps covering an area 32°20' E to 36°20' E of Greenwich and 49° to 50° N.

The usual multicolor lithography is: sepia representing culture, communications, boundaries, general nomenclature; brown, relief; blue, hydrography and names thereof; green, woodland; and orange, main highways, urban areas, military grid. Apparently the Germans selected a sepia tone instead of black to preclude overemphasis of any particular color.

General nomenclature of the map bodies has been transliterated into German and all abbreviations are listed in the sheet order. However, a tendency to overname that has resulted from the anxiety to depict every possible strategic feature, necessitates a wide variety of type sizes.

Wherever it was justified from source material, a 20-meter contour interval was standardized for this set. Even though the base material was taken occasionally from 1:1,000,000 or smaller-scale maps having 100-meter contour intervals, the Germans interpolated for 20 meters. This usually occurred in areas above the 60th parallel. Substantiating their contour scheme, a selected number of bench marks and triangulation points were sufficiently interspersed on the sheets to provide fairly good control. Apparently the 1:100,000 standard USSR topographic maps were considered the ideal base for the structure of this set and were used wherever obtainable. However, the larger-scale maps at 1:50,000 and 1:200,000 were used in considerable number, supplemented with smaller-scale topographic, political, economic, and Soviet Atlas maps

including 1:5,000,000 for areas where larger-scale coverage was not available.

Ground cover has been indicated, wherever known, in twelve classifications including such features as forest, tundra, sand or rocky wastes, grasslands and marsh.

Road classification, conditional to area, includes through highways, roads with good substructure, roads with little substructure, improved dirt roads, other roads, paths or forest trails, winter roads, and corduroy roads.

Rail communications include multiple and single track in standard USSR broad gage, industrial and secondary rail lines, narrow-gage lines, railroads under construction or abandoned, and station sites.

A simplified break-down of populated places indicates large cities above 100,000, medium cities between 30,000 and 100,000, small cities between 5,000 and 30,000, small towns under 5,000, and large and small villages. The size of type face naming urban areas indicates the position of each area in the above break-down. All urban areas have been outlined and accentuated with an orange fill. Isolated buildings are shown in solid sepia.

Depiction of streams, waterways, lakes, etc., is entirely comprehensive in standard treatment, larger bodies of water being shown by solid light-blue fill. Wells, springs, water tanks, canals, and dry river beds are included in this picture.

Besides a standard 10,000-meter military grid showing on all sheets, the *Fliegerausgabe* maps include a rose-colored flight grid based upon a 1°-square geographic graticule, which in turn is numbered and subdivided to show 10' E-W by 5' N-S reference squares.

The top border gives the series number, a special edition classification, the general set name, an edition number, and the sheet number and name. Material in the right and lower borders is exceptionally comprehensive. In the right border appears a symbol legend including 91 separate items. Below that is printed a list of other items used on the map proper. Next, a coordinate scale for the army grid is shown with instructions for use in designation of control points.

From left to right in the lower border the following items are shown: source material credit note, base map data diagram, base map correction diagram, political boundaries diagram, 15-kilometer bar scale, map authority and date, index to adjoining sheets diagram, declination protractor scale, declination diagram and note.

b. Evaluation.—Within certain limits, particularly where a combination of late Soviet large-scale sources was used together with intelligence and aerial photography, these sheets may be used with considerable confidence.

The supply of good source material diminished as the Germans extended this set toward the east and north; the reliability of the set reduced accordingly, particularly where physical features are concerned. Yet in mapped areas where the relief portrayal is strictly unreliable or even non-existent, the planimetric portrayal is considered fairly reliable, probably due to capable intelligence.

In general, any use of these maps should be primarily based on an individual examination of source material listings.

2. MILITARY GEOGRAPHY MAP, EASTERN EUROPE, (MIL-Geo-KARTE) 1:300,000, GENERAL STAFF, GERMAN ARMY

a. Description.—Basically this set is identical with the Special Edition, 1:300,000, described under 131, A, (2), (c), 1, a. In fact, the *Mil-Geo* material was simply overprinted on the latest available sheets of that set.

As an adjunct to the aforementioned set the Germans simultaneously assembled and compiled military geographic and intelligence material particularly adaptable to a substantial number of standard sheets. This material was assembled on a single color plate and applied by purple overprint on the map proper, the enlarged border, and the reverse side, including separate legends and city plans. The overprint type was designed as a large, single-stroke, futura style to assist reading over the type of the original base map.

Inasmuch as the greatest value of individual maps in this set is based entirely on the German portrayal of important military information by combining text and symbols, the following description concerns this method of portrayal.

As the policies and symbolization specifications for the *Mil-Geo* maps were developed, the Germans published explanatory booklets regarding the use of signs and symbols for use both by the map compiler and by the user. Three of these are noted:

- 1) *Kartenzeichen für Militärgeographische Sonderkarten, Entwurf 1941.* (Conventional Signs for Military-Geographical Special Maps, Plan 1941).
- 2) *Signaturen für Militärgeographische Sonderkarten, vorläufiger Entwurf 1943.* (Symbols for Military-Geographical Special Maps, Provisional Plan 1943).
- 3) *Kartenzeichen für Militärgeographische Karten mit Anhang: Verzeichnis von Abkürzungen in Mil-Geo-Texten, Entwurf 1944.* (Conventional Signs for Military-Geographical maps, with Supplement: Index of Abbreviations in Mil-Geo Text, Plan 1944).

A more intelligent interpretation of the set as a whole is possible through the use of the above booklets, particularly the latest edition which supersedes the two previous editions.

Following is a classified listing of *Mil-Geo* signs and symbols which appear, where applicable, in the purple overprint:

- 1) Land forms and vegetation.
- 2) Coastal features.
- 3) Harbor types.
- 4) Waterway obstructions.
- 5) Water feature detail.
- 6) Bridge types.
- 7) Highways, roads, railroads, and traffic features.
- 8) Military, militarily useful, and public establishments or buildings.
- 9) Utilities (supply establishments).
- 10) Cultural features (an exhaustive grouping of economic and agricultural features).

Primarily, the border material on the individual map is the key to its interpretation; without it the map would be a confusing mass of numbers and symbols. This map-qualifying information is listed in order of appearance on the border of each map:

- 1) General Description:
 - a) Agricultural organization.
 - b) Land forms description.
 - c) Soil description.
 - d) Vegetation description.
 - e) Climate data.
 - f) Water features.
 - g) Populations and settlements.
 - h) Agriculture.
 - i) Communications.
- 2) Coastal Description: under this heading certain lengths of coast are located and described.
- 3) Town Description: under this heading the largest, or often a group of the largest or most important urban areas, are described textually. These areas will also be found on the reverse side of the sheet in large-scale blowups.

- 4) Numerically Keyed Military Object Gazetteer: under the German heading, *Objectverzeichnis* appears a listing of numbers together with accompanying text, followed by an atlas coordinate reference. These numbers appear once in the map proper next to a special symbol, and the text describes the object at that position. The atlas reference is simply the German military grid squares which have been referenced in standard form along the map neatlines with a letter on one side and a number on the other.

Apparently the Germans considered bridges of top importance for this type of detailed map, because all bridge locations were exhausted in the first section of this keyed list before descriptions of other types of objects were introduced at the end. This listing was of such length, often running into hundreds of objects, that it was continued to the reverse side of the map.

As mentioned above, the reverse side of these maps usually carries at least one large-scale city plan of the important cities in the area. These were not always compiled from up-to-date sources, but they do include a substantial amount of military information in the purple overprint. Each city thus represented has its own numerically keyed text for locating sites and objects.

Other indices include: 1) A general legend of symbols most frequently used; 2) A legend of economic symbols peculiar to each separate map; and 3) A glossary of abbreviations used in the text.

The reader should bear in mind that, in many cases, the Germans were unable to compile exhaustively informative maps; therefore, while some sheets are literally covered on both sides with purple overprint, others show little additional information or are lacking city plan back-ups.

b. Evaluation.—In view of the fact that field-check verification is impossible and that available aerial photography (out-of-date) has not been subjected to a careful comparison with the German 1:300,000 *Mil-Geo* set, a precise evaluation is withheld and a probable evaluation submitted.

It is believed that certain characteristics are portrayed accurately, such as agricultural organization, land forms description, soil and vegetation, climatic data and other characteristics that develop over the years and do not change suddenly.

Neither do road networks nor other communications develop or disappear overnight; however, their condition may change quite rapidly, which is highly important from a military viewpoint.

Probable or even certain location of bridges may be accepted simply by inspecting the drainage pattern, yet the characteristics of construction, load values, etc., are not permanent, particularly in an area where general military destruction has occurred.

When positive military knowledge is sought, however, such facts, together with descriptions and locations of economic structures such as typed industrial plants, heavily based on intelligence reports during a time of war, should be accepted as probabilities only.

(d) *Maps at scale of 1:200,000: European USSR, 1:200,000, General Staff, Red Army*

1. DESCRIPTION.—The Soviets apparently produced this intermediary-scale set for strategic and economic assessment purposes.

Compilation incorporated surveys dated from 1932 to 1942, also 1:100,000 and 1:50,000 USSR maps dating from 1924, with corrections and printing proceeding from 1939 to late 1942.

Based on a modified polyconic projection, the set uses Prime Meridian Greenwich. The Gauss-Krüger military grid is used in 10,000-meter intervals.

The standard maps cover an area 1° E - W by 40' N - S, following I.M.W. sheet lines, thereby assuming a geographic area equal to 1/36th of a standard I.M.W. sheet.

During the early period of World War II, many standard sheets were combined to form double and quadruple maps, probably for strategic planning purposes.

In the usual lithographic representation brown represents relief; blue, hydrography; red, roads; green, woodland; black, cultural symbolization, communications, and nomenclature; and purple, boundaries.

Maps published in 1942 carry a red fill for main highways and a yellow fill for secondary highways; other roads are shown in black.

Relief on earlier sheets is shown by contours at 10- and 20-meter intervals, tied to triangulation and astronomic points and survey markers. Contouring of later sheets is shown at 40-meter intervals with 20-meter auxiliaries.

A comprehensive classification of vegetation is shown, as well as peatbog, marsh, swamp, sand, and steppe. Forests are portrayed by symbols for deciduous and coniferous trees, with distinction made for burned and cut-over areas and scrub growth.

Streams, as well as ferries and fords are indicated, and wells, springs, deep and shallow navigable canals, glaciers, intermittent streams, irrigation canals, and above-ground and underground water conduits complete the hydrographic portrayal.

Roads are fairly well classified as two classes of highways, improved and regular dirt roads, corduroy roads, tracks, and winter trails.

Railroads include single- and double-line trackage, narrow-gage, lines under construction or dismantled, and electrified lines.

Populated urban areas are classified by symbols and type sizes into eight groups, ranging from settlements of under 100 inhabitants to cities of over 100,000.

Conventional symbols are used to indicate location of isolated buildings or objects, high-tension lines, mines, airdromes, factories, etc.

Aside from a very representative symbol legend, the sheet borders are not especially informative. The lower border contains information regarding the map authority, a 10-kilometer bar scale, an index showing the map position in reference to the million-scale map in which it falls, and occasional information regarding boundaries, but base source material used in compilation is seldom indicated.

2. EVALUATION.—Since this is the only topographic set at 1:100,000 scale covering a major portion of European USSR, it is considered valuable for general reference and for the factual data within limits of the scale.

Some caution is advised in the use of sheets of earlier date as the Soviet compilation was not particularly accurate. However, the compilation of maps published about 1942 is apparently well-executed and may be used with a considerable degree of confidence.

While individually the maps do not portray the wealth of information found in the German 1:300,000 set, from a topographic standpoint they do bridge the gap between the Soviet 1:100,000 and 1:500,000 sheets.

(e) Maps at scale of 1:100,000

1. EUROPEAN USSR, 1:100,000, GENERAL STAFF, RED ARMY

a. Description.—This set was produced mainly for military use at close range and was intended for distribution to lower-ranking officers during real or simulated warfare.

Surveys dating from 1875 through 1929 were used in the compilation of this set. A substantial number of the sheets of later date simply quote the USSR 1:50,000 (1926 to 1941) as source base, but many sheets give compilation credit to available aerial photography. However, included in the make-up of this set is material drawn from 1:25,000 and 1:42,000 topographic maps, together with a mixture of smaller scale 1:126,000 and 1:250,000 political and planimetric sheets of 1883 vintage onward, plus revision data from 1916 to 1941.

As with the USSR 1:200,000 map, a polyhedric projection based on Prime Meridian Greenwich was used, together with the Gauss-Krüger military grid net.

These maps include an area 30' E - W by 20' N - S and fit standard I.M.W. sheet lines, being numbered from 1 to 144 under the parent I.M.W. designation, such as N-36-144.

Relief is shown by contours at 20-meter intervals with 10-meter auxiliaries in flat areas. While the accuracy of the contouring is not proven, it is well supported by numerous trigonometrical points and a variety of bench marks which suggest a well-controlled mapping process.

The description in the succeeding paragraphs will also apply to the German 1:100,000 and both the Soviet and German 1:50,000 maps, which are appraised further in this study.

In order to make an intelligent reading of the map proper, the user should have access to one of the published explanatory-symbol pamphlets prepared particularly for this scale range. Because of the abundance of symbol classifications used, it was impossible to include a symbol legend in the map border.

Three pamphlets are available in the Army Map Service library.

- 1) *Uslovnnyye Znaki i obraztsy Shriftov dlya topograficheskikh Kart, Masshtabov 1:25,000, 1:50,000, 1:100,000.* Photostat of 1940 Soviet publication.
- 2) *Zeichenerklärung für Russische Karten, 1942.* Photostat of German edition of 1).
- 3) *Russian Map Symbols.* Army Map Service Technical Manual No. 17. 1st ed., November 1946. On distribution to authorized agencies.

While many monochromes were published, these maps are predominantly in four colors: black indicates culture, communications, nomenclature; blue, hydrography; brown, relief; and green, woodland.

A complete catalog of all abbreviations used in the maps will be found in the original Soviet or German explanatory symbol pamphlets. The following paragraphs list the principal symbol classifications with a brief description of features that may be included in each category.

Populated Places: In this category may be found cities of all description, rural and scattered settlements, individual dwellings, camps, state farms, homesteads, nomad settlements, permanent fort sites, barns, and ruins.

Industry, Agriculture, and Other Objects: In this category may be found numerous examples of industrial and economic plants, mines, storage tanks, radio stations, airports, tractor stations, meteorological stations, rocks, caves, volcanos, monuments, churches, cemeteries, etc.

Orientation and Fixed Points: A wide range of geodetic control is included in this grouping as well as many fixed objects such as chimneys, towers, pinnacles, buoys, light-houses, submerged rocks, wells, windmills, etc.

Boundaries and Enclosures: In this grouping are found national, administrative, and rayon boundaries, telephone and telegraph lines, low and high-tension lines, oil lines, fences, walls, hedges, embankments, and trenches.

Railroads: A selection is indicated here in a category of nineteen railroad and railroad-qualifying items, such as trackage and gages, motive power, tunnels, fills and cuts, passes and bridges, spurs, cable lines, lines dismantled, etc.

Motor Highways and Roads: In this category roads are analyzed as to classification, surface material, sub-structure, gradients, bridges and obstructions, fences, walls, and trees along right-of-way. This category also includes tracks, trails, winter trails, and caravan trails.

Gardens, Industrial Plantations: Included here are parks, orchards, vineyards, nurseries, and larger plantations of rice, cotton, tobacco, etc.

Forests: Besides showing the location of the two main genera of trees, burned-out or cut-over areas are indicated, as well as age of forests, swampy forests, brushwood, glades, etc., together with an indication as to the degree of passability.

Meadows, Marshes, Steppes, Sandy Deserts: Various combinations of symbols in this grouping qualify the above break-down into areas showing actual terrain conditions.

Rivers and River Crossings: A very exhaustive symbolization under this heading gives a complete picture of all types of rivers, canals, ditches, conduits, etc., including widths, navigability, obstacles, etc. Also shown are bridges, ferries, landings, docks, shoals, rapids, etc.

Soils and Terrain Formations: A fairly complete listing of relief configuration and types is indicated here. Symbolization encompasses contour lines, spot elevations, soundings, karst, areas of perpetual snow, glaciers, slopes, rocky formations, ledges, gorges, sand and gravel conditions, and mountain passes.

In the top border of the 1:100,000 scale map is usually found the edition number, the responsible authority, sheet number and the administrative area of the map. Appearing in the lower border are the names of cartographers and editors who prepared the map, a gradient-key diagram, occasionally an index to adjoining sheets, a 6- or 8-kilometer bar scale, a declination diagram and a short credit note of source material.

b. Evaluation.—Considering the extent of available coverage, the exhaustive symbolization and the compilation material involved, the 1:100,000 USSR map is the best large-scale map for over-all topographic purposes. In any case, the user should consider the economic changes which have occurred since these maps were published.

To date, the accuracy of contouring has not been checked, but it seems that errors probably exist, inasmuch as all the original surveys were not based on the same geodetic data.

In their eastern advance, the German Army surveyors were able to check a portion of the USSR 1:100,000 map with the following results:

Trigonometric points	± 20 m.
Remainder of the point field	± 40-60 m.
Accuracy of contour lines	± 2.5 m.

2. EUROPEAN USSR, 1:100,000 GENERAL STAFF, GERMAN ARMY, TROOP AND SPECIAL EDITIONS

a. Description.—In the German attempt to produce an outstanding troop map of the USSR, at 1:100,000 scale during the early stages of World War II from good captured base maps, it was necessary to use odd-scale miscellaneous maps for preliminary compilation. The resulting maps, called "Special Editions," were used until such time as newly captured USSR maps, gradually made available, enabled the Germans to supplant this edition with well-based Troop Editions.

The maps are geographically similar to their Soviet counterparts, with the same type of projection and military grid net.

The original Special Editions were compiled of necessity from all types of map sources, including USSR 1:100,000, 1:200,000, 1:500,000, 1:84,000 and 1:420,000. Finnish maps at 1:50,000, 1:100,000 and 1:400,000 were also used in border areas.

The early Troop Edition consisted of hasty, pirated impressions of newly captured USSR maps without translation. Gradually these sheets were revised, transliterated, and published for troop operations. Later-dated sheets generally indicate a USSR 1:100,000 source with occasional sheets based on 1:50,000 maps. As the frontier advanced, German aerial photography came into use and many captured maps show complete photo revision.

By and large, these maps might well be called duplicates of the USSR 1:100,000 sheets in color and symbolization. The only practical difference lies in the transliteration of Russian names and abbreviations into German.

Until the Germans were able to reproduce a symbolization pamphlet guide for these maps, they printed a partial symbol legend in each sheet border. However, the borders of later 1943 and 1944 maps contain only source credit note, revision area diagram, declination diagram, 6-kilometer bar scale, index to adjoining sheets diagram, contour diagram, and publisher's note.

In addition to the Troop Edition (*Truppenausgabe*) and Special Edition (*Sonderausgabe*) this set includes the *Zusammendrucke* (combined maps) of both editions. Aside from slight variations in border information, the *Zusammendrucke* sheets carried identical information and simply covered a greater area; strategic planning, no doubt, was the reason for their appearance.

b. Evaluation.—Wherever possible, these maps should be compared individually with the Soviet originals in order to avail a selection of desired pertinent information.

Where the Germans simply made a photo-lith copy of the original captured USSR map, the latter should be given primary consideration, inasmuch as some detail was lost and original drafting became somewhat indistinct in reproduction.

When only the German map is available, it should be used with caution determined by the extent of information given in the credit note.

In many cases, through control of territory or aided by aerial photography, the Germans were able to improve on the factual and planimetric representation of the original Soviet maps; however, this may best be judged after an individual sheet examination.

(f) Maps at scale of 1:50,000

1. EUROPEAN USSR, 1:50,000, GENERAL STAFF, RED ARMY

a. Description.—This is the largest-scale set produced by the Soviets as a correlated series prior to 1938, published for practical military application at close range. It is still in production.

Individual maps were compiled from combined surveys and available material dated from 1891 to 1933 with many later revisions and recom compilations. Survey bases used in compilation included material at scales of 1:21,000, 1:42,000, 1:25,000, and 1:50,000. Certain sheets were revised from 1:50,000 and 1:100,000 field reconnaissance, and others were photo-corrected from interpolations at the scales of 1:10,000, 1:50,000, and 1:100,000.

The map series was constructed on the Gauss-Krüger projection, using Prime Meridian Greenwich, together with

a 1,000-meter military grid pattern. Geographically the individual maps cover an area 15' E-W by 10' N-S, fitting I.M.W. sheet lines. At this sheet size it requires 576 1:50,000-scale maps to make one standard Million Map.

Portrayal of general relief is by contour lines at 10-meter intervals with 5-meter auxiliaries in flat or steep areas. Geodetic control, particularly on later maps, is profuse.

Some sheets, compiled during the transition from the old *verst* maps, and published by U.V.T. (Administration of Military Topographers) about 1934, retained the original contouring at 4-sazhen (8.53 meters) intervals. However, these maps carry a metric conversion graph in the border to facilitate altitude reading. In the body of the map, the contours are labeled to the nearest meter, such as 213 or 222. These maps are mentioned because an occasional one is needed to fill a gap in the standard set.

For description of the map proper see previous description for the 1:100,000, USSR maps, 131, A, (2), (e), 1, and 2.

The only material difference in the sheet border is the bar scale which in this case is for two and four kilometers.

b. Evaluation.—For clarification of topographic detail the 1:50,000 set is a valuable companion to the 1:100,000 scale close-range sheet. It is also possible, in some cases, that the 1:50,000 sheets may contain later revisions than indicated on the available smaller-scale maps covering the same territory.

2. GERMAN ARMY MAP, TROOP EDITION (DEUTSCHE HEERESKARTE), USSR, 1:50,000, GENERAL STAFF, GERMAN ARMY

a. Description.—The first 1:50,000 maps of USSR territory, published by the Germans, were monochrome printings of original captured maps, mostly of early vintage. In their haste to print them, the Germans were able to insert only a few name transliterations, a warning regarding the military grid, and a reproduction date.

Gradually an improved series of maps was compiled, using USSR 1:50,000 and 1:100,000 bases dating mainly from 1923 to 1929. Communications were corrected from 1:500,000 maps of later date, and a substantial amount of photo-revision was done from air-photo data up to the end of the war.

The Gauss-Krüger projection and military grid were retained with the addition of an orange overprint accentuating grid lines.

Nomenclature of the maps of later date has been entirely transliterated. For a comprehensive description of the character of the map proper see that written for the USSR 1:100,000 map previously appraised, 131, A, (2), (e), 1, and 2.

The sheet border is substantially similar, in detail, to the border of the smaller-scale German 1:100,000 map, with the exception of the bar scale, which is of 4-kilometer length.

b. Evaluation.—The value of this series as a whole is not great. Individual maps may be of extreme importance, primarily when the Soviet counterpart is not available.

Certain sheets which carry revision detail of later date, particularly when obtained from acceptable sources such as aerial photography, may well have a positive value beyond any other available map, depending entirely on the type of information sought.

B. Aeronautical charts

The USAF Aeronautical Chart Service is responsible for all aeronautical charts of western USSR produced in the

United States, except the V-30 series of the U.S. Hydrographic Office. The Army Map Service, however, has reprinted the British *Europe (Air)* series at 1:500,000 and 1:250,000, but these large-scale charts provide only partial coverage of the area. The most useful aeronautical charts are three series published by the Aeronautical Chart Service: the *World Aeronautical Chart* series at 1:1,000,000 for large-scale coverage, the *Aeronautical Planning Chart* series at 1:5,000,000 for strategic planning, and the *USAF Equidistant Chart Centered near Sverdlovsk, USSR* at 1:24,327,708 for its highly specialized use.

In the following discussion aeronautical charts are listed according to scale, the smallest scale being considered first. German and locally produced air charts are omitted because they add little to the information given on the maps selected. Any additional information they may contain is being used in the revision or recompilation of USAF maps at all scales.

(1) The Aeronautical Planning Chart series, 1:5,000,000; USAF Aeronautical Chart Service

These sheets described—*Russia 5W*, base compiled July 1945; aeronautical information September 1945; isogonic data 1945 and *Iran 12W*, base compiled March 1945; aeronautical information February 1946; isogonic data 1943—are on the Lambert conformal conic projection with a 1-degree grid. The base shows hydrographic features in excellent detail, gradient tints, spot elevations in feet, railroads, roads, international boundaries and boundaries of union republics as of 1937, cities classified roughly by size, and a table of geographic equivalents. Airports are classified as land or sea bases and according to administration, facilities, and length of longest runway. The quality and extent of railroads and roads is somewhat exaggerated.

Original USSR maps without supporting trimetrogon air surveys were used for most of the Soviet Union. Revised editions of the 1:5,000,000 series are planned, but not for release in the immediate future. The new editions will be compiled from the *World Aeronautical Chart* series at 1:1,000,000.

(2) The Long Range Air Navigation Chart series, 1:3,000,000; USAF Aeronautical Chart Service

This series contains the following maps:

- No. 5, *Scandinavia*; base data compiled February 1944, revised April 1945; aeronautical information July 1945; Lambert conformal conic projection, magnetic variation for 1943.
- No. 6, *Novaya Zemlya*; base compiled March 1944; aeronautical information April 1944; Lambert conformal conic projection.
- No. 14, *Western Europe*; base compiled January 1944; aeronautical information May 1944; Mercator projection with true scale along 50° N.
- No. 15, *Caspian Sea*; base compiled March 1944, aeronautical information April 1944; Mercator projection with true scale along latitude 50° N.

Detailed radio and airport information is presented on a base showing contour gradients, spot elevations in feet, 1938 international boundaries, towns classified by population, railroads, and generalized hydrography. The drafting is poor, especially for the larger rivers, newly established Soviet cities are omitted, and the alignment of recently constructed railroads is inaccurate.

(3) The V-30 Air Navigation Chart series, 1:2,188,800; U. S. Hydrographic Office

These naval plotting charts, sheets 4, 6, 14, and 15, are on the Mercator projection. The base for sheets 4, 6, and

15 was compiled in 1943; that for sheet 14 in 1946. Aeronautical data are for the period 1943-47. Shorelines and elevations show conspicuously on a background giving rivers, contour lines at 1,000-foot intervals, cities, and international boundaries. Magnetic variation is shown. Twelve types of land and seaplane bases are indicated and described according to length of longest runway and radio facilities.

(4) *The World Aeronautical Chart series, 1:1,000,000; USAF Aeronautical Chart Service*

Twenty-eight sheets on the Lambert conformal conic projection cover the entire area. The base was compiled in 1944-45; the aeronautical data, 1944-47.

Spot elevations in feet and gradient tints give elevation in western USSR with the exception of relatively small areas in the northeastern part of European USSR, where hachures are used. In addition to navigation lights, radio stations and detailed airfield data, all sheets show railroads, three types of roads, and towns classified by population. International and union republic boundaries as of 1937 appear on all sheets and oblast boundaries on some.

The sheets are not consistent with each other or within themselves. On a single sheet the legends and contents of the map do not always agree. Internal boundaries should be given on all sheets of the set or on none. The Murmansk railroad, shown on the other sheets, has not been continued on sheet 51. This error is corrected on the new base as of 1946. Town classification of smaller places, alignment of newer railroads, and road classification are not adequate. In spite of these criticisms, a high degree of selectivity has been maintained throughout the set; and, for the most part, recent large-scale source material has been used in compilation. The latest editions show considerable improvements in the presentation of physical as well as cultural detail.

Since no trimetrogon photography or flight checking is available for the USSR, it is difficult to evaluate reliability of these charts. The program of chart revision now in progress involves a careful evaluation of all new source material and the inclusion of whatever data seems pertinent.

(5) *The USAF Pilotage Chart series, 1:500,000; USAF Aeronautical Chart Service*

The 24 sheets of this set cover all European USSR south of 56°N and west of 38°30'E; base compiled 1943-45; magnetic variation for 1943; aeronautical data 1945-46; Lambert conformal conic projection. Hydrographic features and contour gradients are shown in considerable detail. Spot elevations are in feet; towns are classified according to population; and distinction is made between single- and double-track railroads, and between primary and secondary roads. Type and symbols used in the legend to designate different classes of towns are not always consistent with those used on the charts. Except for Memel, which is shown as part of East Prussia, international and republic boundaries shown are as of 1937.

Although these sheets at 1:500,000 are not being currently revised, they are of great value because of their large scale, the large extent of area covered, clarity, and high degree of reliability.

(6) *Europe (Air) series, 1:500,000; GSGS 4072*

This set covers the Baltic States together with the area south of 56°20'N and west of 38°20'E. Fifteen sheets of

the Baltic States and the area west of 28°20'E were prepared by the British War Office, 1942-44; the others in July 1944 by Palestine Field Survey Company, Royal Engineers. All 27 sheets were published as GSGS 4072 and reprinted by the U. S. Army Map Service, 1943-45. Four classes of roads and three of railroads, gradient tints, and spot elevations in meters are shown. Isobaths, with depths in fathoms, cover the coastal waters west of Narva. Woods are indicated only for the Baltic and other areas west of 28°20'E. Sheets covering the area south of 56°20'N between 30°20'E and 38°20'E are enlargements of the 1:1,000,000 maps. On these eastern sheets, drainage and other physical features are crudely presented, and the town-classification and internal-boundary symbols given in the legends differ radically from those shown on the maps. Throughout the set, roads are classified as major or minor in the legend but not on the maps. International boundaries are for 1937 except on the Danzig sheet, which uses 1939 boundaries, and on a few other sheets, which omit the Poland-USSR boundary. On these latter sheets use of Polish and USSR names follows the pre-1939 territorial alignment. Air information is more detailed for sheets west of 28°20'E than for those farther east. In general, presentation is not clear and the entire series is deficient in aeronautical information. Magnetic declination and British military grid are carried throughout.

(7) *Europe (Air) series, 1:250,000; GSGS 3982*

Only a small area along the current Poland-USSR border north of 50°N is covered by these 10 sheets, prepared by Great Britain, War Office, 1938-43; published as GSGS 3982 and reprinted by Army Map Service, 1942-44. The series has been discontinued and is not being replaced by air maps at a similar scale.

All sheets show gradient tints, spot heights in meters, woods, magnetic declination, and pre-1939 international boundaries. On the Bialystok sheet, boundaries are given on an inset. All except the Danzig sheet have military grids. The three northern sheets distinguish four types of roads and three of railroads. Other sheets give two classes of roads and of railroads. Towns are classified according to relative importance or population, but the difference between the two types of classification is slight. The legend on many of the sheets includes an impressive amount of detailed air information, but data actually shown on the maps are scant for the Baltic coastal region.

(8) *USAF Equidistant Chart Centered near Sverdlovsk, USSR ZD9 (ZD9N-Nomograph); 1:24,327,708, September 1946; USAF Aeronautical Chart Service*

This azimuthal equidistant chart covers the territory within a radius of 5,300 nautical miles from 57°N, 60°E. International boundaries are for 1946 and in most cases favor the powers currently in control of disputed areas. Detail of hydrographic features and cities shown becomes increasingly sparse toward the periphery of the chart. Great Circle courses and distances between two points remote from the center of construction may be determined with the nomograph made for the chart. ZD9-1 shows 1,000-mile concentric circles along Sverdlovsk. This overprint is omitted on ZD9.

(9) *Special Air Navigation Chart, S-140 England-India; 1:5,000,000 along 40° N; USAF Aeronautical Chart Service*

The base for this chart was compiled November 1944, aeronautical information December 1944, isogonic data 1943.

The Mercator projection with a 1-degree grid is used. The chart extends northward to 53°N. Both hydrographic features and gradient tints are highly generalized. International boundaries given are for different dates in the late 1930's. Spot elevations in feet, railroads poorly selected and in many cases inaccurately located, and towns classified by population are included on the base. Although aeronautical and radio facilities are presented in considerable detail, these data are to a large extent out of date.

(10) *Special Air Navigation Chart series, 1:1,000,000 along 56° N; USAF Aeronautical Chart Service*

The two charts described are, *S-122 Kiev to Berlin*: base compiled June 1944, aeronautical information June 1944, isogonic data 1943; and *S-123 Budapest to Sevastopol*: base compiled August 1944, aeronautical information May 1944, isogonic data 1944.

Both of these charts are on the Mercator projection with 10' grids. Detailed hydrographic features, gradient tints of form-line accuracy, spot elevations in feet, single- and double-track railroads, mines, towns classified roughly by importance, and international boundaries as of 1937 are shown. Special air information given consists of three types of air bases, marine navigation lights, and radio broadcasting stations.

C. Hydrographic charts

The hydrographic charts described in this section are limited in general to the official charts of the countries responsible for the most recent surveys or corrections. As a result, USSR charts predominate except for the Baltic area. The U.S. Hydrographic Office, however, has issued emergency reproductions of the British Admiralty charts and a few original charts. Together they cover the Murman Coast, and the White, Baltic, and Black Sea coasts of the USSR (including major harbors). Since these charts follow the standard pattern and are listed in the catalog of the Hydrographic Office, only those based on recent Soviet surveys are noted specifically. Current corrections, use of the English language, and ready availability make the U.S. charts particularly useful. In some cases, it may be advisable to compare these charts with their foreign counterparts, especially for geographic position and cultural features.

The British, in addition, issue some large-scale charts of Soviet ports, which are based on older, unrevised Russian surveys. Consequently the charts are of doubtful value. The same is true of the older, unrevised Russian charts. Both have been omitted from this discussion.

A large number of German, Finnish, Latvian, and Estonian charts are listed for the Baltic area, partly because annexations in the area have been too recent to permit extensive Soviet surveys and partly because the USSR has shown an unwillingness to share information with other countries. Comparatively recent, small-scale charts of the entire Baltic coast have been issued by the USSR and Germany. Medium-scale German charts at 1:500,000 and 1:400,000 and larger-scale German charts at 1:200,000 and 1:150,000 also cover the entire coast. Finnish charts at 1:285,012 are limited to the Gulf of Finland. The Latvian and Estonian charts listed are all at large scale and cover only comparatively small sections of the southern Baltic coast.

Except for Gavan' Pyarnu (Pärnu Harbor), 1:10,000, USSR No. 4129, and Dantsigskaga Bukhta (Danzig Bay),

1:100,000, USSR No. 4064, the Soviet charts are less detailed than those of other nations. The first of these charts shows considerably more detail than Latvia No. 9 from which it was taken. The additional material may have come directly from the Latvian Hydrographic Office after the Soviet seizure of that country. The second chart shows topography in great detail. If similar information is available for other Soviet areas, it has been carefully concealed from Americans.

Actual evidence of Soviet restrictions concerning information on their territorial waters is provided by the German reprints of Yuokankskiye Ostrova (Yuokankskiye Island), 1:25,000, USSR No. 2523, and Yugorskiy Shar (Yugovskiy Strait), 1:50,000, USSR No. 1570, as well as by the large-scale German compilations for the Leningrad area. The details shown on all of these charts were taken from Soviet charts that have never been listed in Soviet hydrographic catalogs or exchanged with the United States. Another type of restriction is illustrated by Dvinskiy Zaliv (Dvina Gulf), 1:200,000, USSR No. 1660, corrected 1943. The chart omits the port of Molotovsk, although American merchant marine captains were using the port at the time the chart was issued.

All of the nautical charts described in this section have some features in common. All show aids to navigation, such as lights. Heights and depths are given in meters unless otherwise noted. Sounding in Arctic waters are reduced to lowest low water, except on small-scale charts where such reductions would be lost in generalization and on charts of the Vaygach island sector, for which all surveys seem to be preliminary. In other waters, tides are of little or no significance and soundings are reduced to average mean low water level. All charts carry submarine contours. For at least a short distance inland, they include drainage, place names, towns, and on the larger-scale charts individual buildings. Absence of cultural features on charts indicates that they are non-existent, as in the more remote parts of the Arctic coast. International boundaries given are those used by the issuing country at the date of issue or correction. Unless otherwise indicated, all of the maps described use the Mercator projection.

The charts described in TABLES XIII-1 to XIII-5 cover the USSR coastal waters but do not include Novaya Zemlya or Franz Josef Land. Because the coastal waters are not continuous, they have been divided into five major areas—the Arctic Ocean (TABLE XIII-1), the Baltic Sea (TABLE XIII-2), the Black Sea and the Sea of Azov (TABLE XIII-3), the Caspian Sea (TABLE XIII-4), and the inland lakes (TABLE XIII-5). Because of the great number of large-scale charts available, the Arctic is further subdivided into the Murman Coast, the White Sea, and the coast east of the White Sea. Each of the inland lakes is considered separately.

Under the major and minor subdivisions, the charts are grouped first by the country of issue, and then listed according to scale, the smallest-scale charts being considered first.

Each chart is described according to scale, title, publisher, date of compilation or latest edition, date of latest correction, language used, date of magnetic variation, method of presenting terrain, area covered, and source material used in compilation.

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MAP APPRAISAL

TABLE XIII - 1
ARCTIC OCEAN HYDROGRAPHIC CHARTS

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
1. U. S. HYDROGRAPHIC CHARTS:*						
1:226,200 at 66°30'	Mezenski Gulf. No. 2271	1946	1947	1946	Cliffs, hachures, spot elevations	Area 65°45' to 67°20'N; 42°15' to 44°45'E. From Soviet charts to 1946.
1:226,200 at 66°30'	The Gorlo. Inset: Sosnovskaya Strait, 1:50,000. No. 2272	1944	1947	1946	Hachures, spot elevations	Area 66° to 67°N; 38°45' to 42°45'E. From 1942 Soviet charts, corrected to 1944.
1:225,000 at 67°30'	White Sea, Sheet II. Inset: Tri Ostrova, 1:50,000. No. 2270	1946	1947	1946	Hachures, spot elevations	Area 66°55' to 67°55'N; 40°15' to 44°20'E. From Soviet charts to 1946.
1:208,060 at 68°	Chyorniy Point to Bol'shoy Gorodetskiy Point. No. 2269	1941	1944	.....	.....	Area 67°35' to 68°32'N; 38°35' to 42°37'E. From Soviet charts to 1941.
1:206,000 at 68°50'	Mali Oleni I. to C. Cherni. Insets: Voronya and Gavrilovskaya Bays, 1:30,000; Podpakhta Bay, 1:25,000; Teriberskaya Bay, 1:25,000; Rinda Bay, 1:12,500; Bol'shoy Oleni Road, 1:50,000; Semioostrovski Road, 1:100,000; Shelpinskaya Bay, 1:25,000; Vostochnaya Litsa Bay, 1:25,000. No. 2334	1935	1946	1935	Spot elevations	Area 68°17'30" to 69°18'30"N; 34°33' to 38°44'E. From Soviet charts to 1935.
1:200,000 at 69°30'	Majakkaniemi to Bol'shoy Olyen I. No. 2318	1942	1942	1942	Form lines	Area 68°57' to 70°5'N; 31°50' to 36°46'E. From 1939 Soviet charts corrected to 1942.
1:196,000 at 69°45'	Varanger Fjord to Mali Oleni Island. No. 2333	1939	1946	1939	Hachures, spot elevations	Area 69°13' to 70°12'N; 30°47' to 34°50'E. From Soviet and Finnish charts to 1939.
2. SOVIET CHARTS:**						
a. Small-scale charts of entire Arctic Coast:						
1:2,200,000 at 75°	Barentsovo more ot Shpitsbergena do Novoy Zemli (Barents Sea from Spitzbergen to Novaya Zemlya). USSR No. 2529	1939	1944	1945	.....	Area 66° to 83°N; 10° to 68°E. From Soviet charts. Glaciers.
1:750,000 at 69°	Ot mysa Nordkap do mayaka Gorodetskiy (From North Cape to Gorodetskiy Light). USSR No. 1565	1936	1943	1940	.....	Area 67°30' to 72°N; 25° to 44°30'E. From Soviet expeditions to 1933 and Norwegian charts corrected to 1933.
1:750,000 at 66°	Beloye More (White Sea). USSR No. 1333	1934	1943	1940	Spot elevations	Area 63°45' to 68°45'N; 31°40' to 45°10'E. From Soviet surveys to 1933 and topographic maps to 1934. Railroads.
1:750,000 at 69°	Ot mayaka Gorodetskogo do Yugovskogo Shara (From Gorodetskiy Light to Yugorskiy Strait). USSR No. 1666	1938	1943	1940	.....	Area 66°40' to 71°37'N; 40°55' to 60°36'E. From Soviet charts incorporating surveys through 1936.
b. Medium- and large-scale charts of the Murman Coast:						
1:200,000 at 69°	Ot mayaka Makkaur do mayaka Tsypnovolokskiy s Varangerfjordom (From Makkaur Light to Tsypnovolokskiy Light with Varanger Fjord). Insets: Ostrova Varde (Vardø Island), 1:50,000; Podkhody gorodu Vadsø (approaches to the town of Vadsø), 1:50,000; Gavan' Linnahamarin Satama (Linnahamarin Harbor), 1:20,000; Bukhta Petsamonvuono (Petsamonvuono Bay), 1:60,000. USSR No. 1320	1934 (the last two insets compiled in 1939)	1942	1940	Hachures, spot elevations	Area 69°30' to 70°45'N; 28°30' to 33°25'E. From Soviet, Norwegian, and Finnish charts. Roads, railroads.
1:200,000 at 69°	Ot mayaka Vaydagubskogo do ostrova Bol'shoy Oleniy (From Vaydagubskiy Light to Bol'shoy Oleniy Island). USSR No. 1434	1935	1941	1940	.....	Area 68°52' to 70°10'N; 31°50' to 36°45'E. From Soviet surveys to 1930.
1:100,000 at 69°	Ot mayaka Tsypnavolokskogo do oströva Kil'din s Motovskim zalivom (From Tsypnavolokskiy Light to Kil'din Island with Motovskiy Gulf). Insets: Vkhod v gubu Vichany (Entrance to Vichani Bay), 1:50,000; Yakornoye mesto v ostrovakh Vichany (Anchorage on Vichani Island), 1:25,000. USSR No. 2514	1940	1942	1940	Spot elevations	Area 69°10' to 69°45'N; 31°50' to 34°25'E. From Soviet surveys and charts. Roads, vegetation.
1:200,000 at 69°	Ot mayaka Gavrilovskogo do Svyatogo Nosa (From Gavrilovskiy Light to Svyatoy Nos). Inset: Guba Zolotaya (Zolotaya Bay), 1:10,000. USSR No. 1341	1934	1943	1940	.....	Area 68° to 69°20'N; 35°45' to 40°40'E. From Soviet surveys to 1934 with additional work to 1940. Prohibited areas.

* United States Hydrographic Office emergency reproductions of British Admiralty charts. Only those compiled from recent Soviet charts are listed. See U. S. H. O. catalog for charts based on older source material. Depths are in fathoms below lowest possible low water and heights are in feet. Special tidal data tables are carried on each chart.

** All charts published in Russian by the Gidrograficheskoye Upravleniye Voenno-Morskogo Flota Soyuza SSR (Hydrographic Administration of the Soviet Navy).

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TABLE XIII - 1 (Continued)

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
SOVIET CHARTS (Continued):						
b. Medium- and large-scale charts of the Murman Coast (Continued):						
1:100,000 at 69°	Ot mayaka Tsypnavolokskiy do ostrova Kil'din s Kol'skim zalivom (From Tsypnavolokskiy Light to Kil'din Island with Kola Bay). USSR No. 2515	1940	1943	1940	Relief shading, spot elevations	Area 68°52' to 69°45'N; 32°46' to 34°26'E. From Soviet charts. Vegetation, zones of prohibited anchorage and trawling.
1:100,000 at 69°	Ot ostrova Kil'din do ostrova Bol'shoy Oleniy (From Kil'din Island to Bol'shoy Oleniy Island). USSR No. 2516	1940	1940	1940	Relief shading, spot elevations	Area 69°3' to 69°38'N; 33°56' to 36°26'E. From Soviet surveys to 1930.
1:50,000 at 69°	Semiostrovskiy rey (Semiostrovskiy Road). USSR No. 1142	1933	1942	....	Hachures, spot elevations	Area 68°36' to 68°54'N; 37°9' to 37°55'E. From Soviet surveys 1930-31.
1:25,000 at 69°	Yuokanskiye ostrova (Yuokankskiy Island). USSR No. 2523	1939	....	1940	.....	Area 67°59'30'' to 68°6'30''N; 39°24'30'' to 39°39'30''E. From Soviet surveys of 1935. German print gives alternative names and explanations in German, and table of Russian symbols and abbreviations translated into German.
c. Medium- and large-scale charts of White Sea:						
1:250,000 at 66°	Vostochnaya chast' Belogo morya, Dvinskiy zaliv (Eastern part of the White Sea, Dvina Gulf). Inset: Ust'ye reki Varzugi (Mouth of the Varzuga River), 1:50,000. USSR No. 1216	1933	1941	1940	.....	Area 64°30' to 66°40'N; 36°45' to 40°50'E. From Soviet surveys to 1932. Vegetation.
1:250,000 at 66°	Zapadnaya chast' Belogo morya i Onchskiy zaliv (Western part of the White Sea and Gulf of Onega). Inset: Podkhod k seleniyu Lyamtsy (Approach to the village of Lyamtsa), 1:25,000. USSR No. 1159	1932	1942	1940	Hachures	Area 63°45' to 66°N; 34°10' to 38°25'E. From Soviet surveys to 1931. Vegetation.
1:200,000 at 66°	Ot mayaka Svyatoy Nos do mayaka Sosnovetskogo (From Svyatoy Nos Light to Sosnovets Light). USSR No. 1460	1937	1942	1940	.....	Area 66°30' to 68°15'N; 39°35' to 42°40'E. From Soviet surveys and charts.
1:200,000 at 66°	Ot mayaka Voronovskogo do mayaka Keretskogo (From Voronovskiy Light to Keretskiy Light). USSR No. 2511	1940	1941	1940	Spot elevations, cliffs	Area 65°19' to 66°35'N; 37°46' to 42°20'E. From Soviet surveys and charts. Vegetation.
1:200,000 at 66°	Ot mysa Sharopova do mysa Ukht-Navolok (From Sharopov Light to Ukht-Navolok Light). USSR No. 2545	1942	1943	1940	Hachures	Area 65°5' to 66°31'45''N; 34° to 38°43'E. From Soviet surveys 1937-39 and charts printed in 1940-41.
1:200,000 at 66°	Kandalakshskiy zaliv (Kandalaksha Gulf). USSR No. 2504	1940	1943	1940	.....	Area 66°12' to 67°11'N; 31°56' to 35°23'E. From Soviet surveys of 1933-38.
1:200,000 at 66°	Dvinskiy zaliv (Dvina Gulf). USSR No. 1660	1937	1943	1940	Cliffs	Area 64°25' to 65°40'N; 36°40' to 40°50'E. From Soviet surveys of 1936 with additional detail on Onchskaya Guba (Gulf of Onega) shoreline for 1939. Vegetation.
1:200,000 at 66°	Gorlo Belogo morya i mezenskiy zaliv (The Throat of the White Sea and Gulf of Mezen). Insets: Reyd ostrova Sosnovets (Sosnovets Island Roadstead), 1:50,000; Tri Ostrova (Three Islands), 1:50,000. USSR No. 2547.	1941	1943	1940	Hachures, spot elevations	Area 65°57' to 67°21'N; 40° to 44°43'E. From Soviet surveys to 1940.
1:50,000 at 66°	Ot mysa Kostyleva do ostrova Sidorova (From Kostylev Cape to Sidorov Island). USSR No. 2502	1939	1943	1940	.....	Area 66°21'15'' to 66°41'N; 32°46' to 33°55'20''E. From Soviet surveys of 1933 and 1935.
1:50,000 at 66°	Ot mysa Ostrovskogo do ostrovov Salma-Ludy (From Cape Ostrovskoy to the Salma Luda Islands). USSR No. 2539	1940	1944	1945	Hachures	Area 64°11' to 64°33'N; 35°32' to 36°13'E. From Russian surveys of 1895-1908. Vegetation.
1:50,000 at 66°	Ot ostrova Kondostrov do ostrova Myagostrov (From Kondostrov Island to Myagostrov Island). USSR No. 2538	1940	1944	1945	Hachures	Area 64°7' to 64°23'N; 36° to 36°54'E. From Russian surveys of 1895-1908. Vegetation.
1:50,000 at 66°	Ot Ponomareva Nosa do mysa Sosnovyy Navolok (From Ponomarev Nos to Cape Sosnovyy Navolok). USSR No. 2540	1940	1941	1940	Hachures	Area 63°53' to 64°9'N; 36°6' to 37°E. From Russian surveys of 1896-1911. Vegetation.
1:50,000 at 66°	Onchskiy rey i vkhody v reku Onegu (Onega roadstead and entrance to the Onega River). USSR No. 1803	1940	1943	1940	Hachures	Area 63°52'44'' to 64°6'N; 37°38' to 38°8'E. From Russian surveys of 1886-90. Roads, vegetation.
1:50,000 at 66°	Farvater po yuzhnyu storonu ostrova Zhizhzhinskogo (The channel along the south side of Zhizhgin Island). USSR No. 709	1939	1941	1940	Hachures	Area 65°8' to 65°17'N; 36°41' to 37°2'E. From Russian surveys of 1905 and Soviet surveys of 1937. Vegetation.
1:50,000 at 66°	Ust'ye rek Mezeni i Kuloya i podkhody k nim (Mouths and approaches to the Mezen and Kuloy Rivers). USSR No. 1358	1934	1935	1935	Cliffs	Area 65°49' to 66°20'N; 43°30' to 44°20'E. From Soviet surveys to 1934. Vegetation. Conversion table—meters, sazhen, and feet.

TABLE XIII - 1 (Continued)

Scale	Title	Issue	Correc- tion	Mag- netic variation	Surface features	Description
c. Medium- and large-scale charts of White Sea (Continued):						
1:42,000 at 64°30'	Ot ostrova Salma-Ludy do Shuyostrova (From Salma-Luda to Shuvostrov). USSR No. 955	1916	1943	1940	Hachures	Area 64°30' to 64°46'N; 34°45' to 35°39'E. From Russian surveys of 1887-1906. Soundings in feet. Conversion table— feet to meters. Vegetation.
1:21,000 at 64°56'	Ostrova Kuzova (Kuzov Islands). No. 777	USSR 1910	1943	1940	Form lines, spot elevations in feet	Area 64°53' to 64°59'N; 34°56' to 35°20'E. From Russian surveys of 1890-1906. Soundings in feet. Conversion table— feet to meters. Vegetation.
1:21,000	Farvatery k soleniyu Shuya (Channel to Shuy village). USSR No. 659	1905	1942	1940	.....	Area 64°41' to 64°54'N; 34°42' to 35°8'E. From Russian survey of 1904. Sound- ings in feet. Conversion tables— <i>sazhen</i> , feet and meters.
1:10,000	Port Molotovsk. (Unnumbered)	.....	.....	.....	.....	Area 64°33'30" to 64°36'42"N; 39°42' to 39°48'36"E. This chart is classified as confidential. It was compiled about 1942 from Soviet surveys of that date.
d. Medium- and large-scale charts of coast east of the White Sea:						
1:250,000 at 69°	Kaninskaya Zemlya s severnoy chast'-yu Cheshskoy guby (Kaninskaya Zemlya with the northern part of Cheshskaya Bay). USSR No. 1143	1932	1943	1940	Hachures, spot elevations	Area 67°7' to 68°55'N; 42°35' to 48°55'E. From Soviet surveys to 1940.
1:250,000 at 75°	Podkhody k prolivam Karskiye Vorota i Yugorskiy shar (Approaches to Kara and Yugorskiy Straits). USSR No. 2549	1942	1944	1940	Hachures, spot elevations	Area 69°20' to 71°13'N; 54°20' to 62°30'E. From Soviet surveys to 1940.
1:200,000 at 69°	Ot mysa Russkiy Zavorot do o-va Mat- veyev s Pechorskim zalivom (From Cape Russkiy Zavorot to Matveyev Island with the Gulf of Pechora). USSR No. 2522	1940	1941	1940	Relief shading, spot eleva- tions.	Area 68°25' to 69°40'N; 53°44' to 58°58'E. From old charts and surveys to 1930.
1:200,000 at 69°	Ot ostrova Varandeya do Yugorskogo shara (From Varandey Island to Yugorskiy Strait). USSR No. 2617	1939	1944	1940	Hachures	Area 68°47' to 69°43'N; 57°48' to 61°10'E. From Soviet surveys of 1934-35 and old charts.
1:200,000 at 75°	Yuzhnaya chast' Karskogo morya ot Yugorskogo shara do Baydaratskoy guby (Southern part of the Kara Sea from Yugorskiy Strait to Baydaratskaya Bay). Inset: Podkhod k ust'yu reki Marre Yaga (Approach to the mouth of the Marre Yaga River), 1:25,000. USSR No. 2608	1936	1944	1940	Hachures	Area 69° to 70°45'N; 60°25' to 67°25'E. From Soviet surveys to 1936.
1:150,000 at 69°	Reka Pechora. Ot ust'ya do goroda Nar'yan-Mara (Pechora River. From the mouth to the town of Naryan Mar). USSR No. 1095	1940	1941	1940	Hachures	Area 67°35' to 68°30'N; 52°52' to 55°5'E.
1:50,000 at 69°	Bolvanskaya guba v limane reki Pechory (Bolvanskaya Bay in the Pechora estu- ary). USSR No. 492	1939	1943	1940	Cliffs	Area 68°8'5" to 68°20'5"N; 54°28'48" to 54°58'40"E. From Russian surveys of 1894.
1:50,000 at 70°	Yugorskiy shar (Yugorskiy Strait). USSR No. 1570	1936	.....	1935	Contours	Area 69°30' to 69°55'N; 59°55' to 60°55'E. From Soviet surveys of 1934-35. Ger- man reprint of Soviet chart with all names also in German. Conversion table—meters, <i>sazhen</i> , and feet. List of Russian abbreviations explained in German.
1:50,000 69°49'30"	Bukhta Lyamchina (Lyamchina Bay). USSR No. 2614	1939	1941	1940	Cliffs	Area 69°41' to 69°58'N; 58°53' to 59°45'E. From Soviet surveys of 1935 and older charts.
1:25,000	Plan bara guby Kolokolkovoy (Plan of the Bar of Kolokolkova Bay). USSR No. 2605	1937	1940	1940	Hachures	Area 68°32' to 68°38'N; 52°3' to 52°23'E. From Soviet surveys of 1936. My- fling projection.
1:25,000	Proliv Morozova i ostrov Mestnyy (Moro- zova Strait and Mestnyy Island). USSR No. 1747	1936	1943	1940	Hachures	Area 69°48'22" to 69°52'14"N; 61°6' to 61°19'9"E. From Soviet surveys of 1935.
1:10,000	Podkhod k Amdermo (Approach to Am- derma). USSR No. 1749	1936	1943	1940	.....	Area 69°45'5.47" to 69°46'52.84"N; 61°39'7.9" to 61°40'34.54"E.
Various scales	Guba Dyrovataya na z. boregu ostrova Vaygach (Dyrovat Bay on the western coast of Vaygach Island), 1:20,000 at 70°12'; Guba Belush'ya (Belushya Bay), 1:40,000 at 71°30'; Bukhta Samoyed v Belush'yey gube (Samoyed Bay within Belushya Bay). 1:10,000 at 71°32'. USSR No. 2618	1939	1943	1940	Cliffs, spot ele- vations	The first plan is on Vaygach Island and the other two on Novaya Zemlya. From old Russian surveys.

TABLE XIII - 2
BALTIC SEA HYDROGRAPHIC CHARTS

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
1. SOVIET CHARTS:*						
a. Small-scale chart of entire coast:						
1:1,200,000 at 60°	Baltiskoe morye (The Baltic Sea). USSR No. 1569	1936	1944	Russian 1945	.....	Area 53°30' to 66°N; 9° to 31°E. From Soviet, Finnish, Swedish, and German charts.
b. Medium-scale charts:						
1:200,000 at 60°	Ot porta Ventpil's do porta Memel' (From the port of Ventspills to the port of Memel). USSR No. 1229	1933	1944	1945	.....	Area 55°30' to 57°31'N; 19°20' to 21°35'E. From Soviet, Swedish, and German charts. Vegetation, roads, railroads.
1:200,000 at 60°	Ot mayaka Ovizi do mayaka Takhkuna (From Ovizi Light to Takhkuna Light). USSR No. 4148	1943	1943	1940	.....	Area 57°27' to 59°12'N; 20°30' to 22°45'E. From Soviet charts. Roads, railroads.
1:200,000 at 60°	Rizhskiy zaliv (Gulf of Riga). Insets: Port Pyarnu, 1:25,000; Gavan' Virtsu (Virtsu Harbor), 1:10,000. USSR No. 4149	1943	1943	1940	.....	Area 56°55' to 58°43'N; 22°5' to 24°33'E. From Soviet charts. Roads, railroads.
1:200,000 at 60°	Ot ostrova Khilumaa do goroda Turku (From Khilumaa Island to the town of Turku). USSR No. 2154	1940	1944	1940	.....	Area 58°35' to 60°30'N; 21°20' to 24°E. From Finnish and Estonian charts. Roads, railroads.
1:200,000 at 60°	Ot ostrova Degere do ostrova Gorland (From Degere Island to Gorland Island). USSR No. 2153	1940	1943	1940	Cliffs	Area 59°12' to 60°35'N; 23°29' to 27°15'E. From Soviet charts. Roads.
1:200,000 at 60°	Ot ostrova Gorland do Leningrada (From Gorland Island to Leningrad). USSR No. 2152	1941	1942	1940	.....	Area 59°19' to 60°43'30'N; 26°50' to 30°35'E. From Soviet charts. Prohibited zones.
c. Large-scale charts:						
1:100,000 at 60°	Dantsigskaya Bukhta (Danzig Bay). USSR No. 4064	1942	1943	Russian 1940	Contours	Area 54°10' to 55°N; 18°18' to 20°13'E. From German charts and Soviet topographic maps. Nearly all the land area is covered with detail, including roads and railroads.
1:10,000 at 60°	Gavan' Pyarnu (Pärnu Harbor). USSR No. 4129	1940	1943	Russian 1940	.....	Area 58°21'19" to 58°23'33"N; 24°26'44" to 24°30'35"E. Enlarged from Estonian chart No. 9 but additional detail not on the 1934 edition. Street pattern.
2. GERMAN CHARTS:**						
a. Small-scale chart of entire coast:						
1:1,500,000 at 53°50'	Die Ostsee (The Baltic Sea). Germany No. 98	1937	1945	German 1940	.....	Area 53°50' to 66°N; 9° to 30°30'E. Railroads. Earlier printing has corrections to 1943, includes magnetic variation curves.
b. Medium-scale charts:						
1:500,000 at 58°35'	Die Ostsee von Öland bis Helsingfors (The Baltic Sea from Öland to Helsingfors). Germany No. 52	1930	1945	German 1937	Hachures	Area 56°40' to 60°30'N; 16°15' to 25°E. In two sheets. Railroads. The three-mile limit of Sweden is overprinted in red. Non-German geographic terms are translated into German.
1:400,000	Finnischer Meerbusen (Gulf of Finland). Germany No. 79	1931	1946	German 1944	Hachures, spot elevations	Area 58°51'30" to 60°45'N; 22°34' to 30°23'E. From German charts. Railroads, vegetation. Glossary of non-German terms.
1:400,000	Die Ostsee von Jershöft bis Steinort (The Baltic Sea from Jershöft to Steinort). Germany No. 240	1930	1944	German 1946	Hachures, spot elevations	Area 54°16' to 57°N; 15°42' to 21°19'E. From German and Swedish charts. Railroads, vegetation.
1:200,000 at 57°45'	Der Rigaische Meerbusen (Gulf of Riga). Insets: Hainasch (Ainaži), 1:50,000; Pernau (Pärnu), 1:40,000; Hafen Markgrafen (Mersraga Harbor), 1:10,000; Hafen Skulte (Skultes Harbor), 1:7,500. Germany No. 15	1942	1945	1946	Hachures	Area 56°55' to 58°35'N; 22°25' to 24°40'E. From German, Latvian, Estonian, and Soviet charts. Railroads, vegetation, index of larger-scale German charts of same area, glossary of Estonian and Latvian terms.
1:150,000	Danziger Bucht und Frisches Haff (Bay of Danzig and Frisches Haff). Germany No. 51	1942	1944	1944	Hachures, spot elevations	Area 54°10' to 55°8'N; 18°15' to 20°33'E. From German surveys. Railroads, vegetation, index of larger-scale German charts within the area; wrecks overprinted in green.

* Published by Hidrograficheskoye Upravleniye V.M.F. 1:200,000 charts from Klaipėda (Memel) to Leningrad only. Russian language used exclusively.

** Complete coverage of Baltic Coast by Oberkommando der Kriegsmarine Charts at 1:500,000 and 1:400,000, and at 1:200,000 and 1:150,000. Charts at 1:500,000 and 1:400,000 include index maps of charts at larger scales.

TABLE XIII - 2 (Continued)

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
b. Medium-scale charts (Continued):						
1:150,000	Küste von Ostpreussen und Kurisches Haff (Coast of East Prussia and Kurisches Haff). Germany No. 45	1927	1944	1945	Hachures, spot elevations	Area 54°52' to 55°56'30"N; 19°43' to 21°23'E. From German surveys. Topographic maps, and Memel harbor plans. Vegetation, railroads, index of larger-scale German charts of area; wrocks overprinted in green.
1:150,000	Küste von Kurland, Memel bis Steinort (Coast of Kurland, Memel to Steinort). Inset: Pappensee, 1:10,000. Germany No. 17	1919	1944	1944	Hachures	Area 55°43' to 56°55'N; 19°47' to 21°23'E. From German surveys and topographic maps, Soviet charts and topographic maps, and Latvian charts. Roads, railroads, vegetation, index of larger-scale German charts of area.
1:150,000 at 55°46'	Küste von Kurland, Steinort bis Lyserort (Coast of Kurland, Steinort to Lyserort). Insets: Hafen von Windau (Ventspils Harbor), 1:20,000; Pauls Hafen (Pavilosta Harbor), 1:25,000 and 1:5,000. Germany No. 16	1940	1942	1944	Hachures	Area 56°46' to 57°41'N; 20°46' to 22°21'E. From German surveys; Latvian and Soviet charts. Roads, railroads, vegetation.
1:150,000 at 57°56'	Westliche Einfahrt zum Rigaischen Meerbusen (Western Entrance to the Gulf of Riga). Inset: Hafen von Rojen (Roja Harbor), 1:10,000. Germany No. 10	1940	1944	1944	Hachures	Area 57°29' to 58°23'30"N; 21°4' to 23°15'E. From Soviet, Latvian and Estonian charts. Roads, railroads, vegetation.
1:150,000 at 58°48'	Nördliche Einfahrten zum Rigaischen Meerbusen (Northern Entrances to the Gulf of Riga). Insets: Hafen von Hapsal (Haapsalu Harbor), 1:40,000; Rohuküla Hafen (Rohukula Harbor), 1:12,000; Werder Hafen (Virtsu Harbor), 1:12,000; Orjaku Hafen (Orjaku Harbor), 1:12,000; Lehtma Hafen (Lehtma Harbor), 1:10,000; Kuivaste Hafen (Kuivaste Harbor), 1:8,000; Taaliku Hafen (Taaliku Harbor), 1:8,000; Heltermaa Hafen (Heltermaa Harbor), 1:8,000; Hafen von Kertel (Kärdla Harbor), 1:8,000; Tiefenhafen (Suur Harbor), 1:8,000. Germany No. 9	1942	1944	1940	.....	Area 58°16' to 59°19'N; 21°4' to 23°15'E. From Estonian charts. Roads, railroads.
1:150,000	Finnischer Meerbusen, Hanko bis Helsinki (Gulf of Finland, Hanko to Helsinki). Germany No. 150	1935	1944	1937	Hachures	Area 59°12' to 60°13'N; 22°50' to 25°6'E. Railroads, index of larger-scale German charts of area. Seamarks not carried along Finnish coast.
1:150,000	Finnischer Meerbusen, Helsinki bis Suursaari (Gulf of Finland, Helsinki to Suursaari). Germany No. 151	1936	1942	1937	Hachures	Area 59°25' to 60°31'N; 24°53' to 27°E. From German and Estonian charts. Roads, railroads, index of larger-scale German charts of area. Seamarks not given along Finnish coast.
1:150,000	Finnischer Meerbusen, Suursaari bis Seiskari (Gulf of Finland, Suursaari to Seiskari). Inset: Hungerburg (Narva-Jõesuu), 1:50,000. Germany No. 152	1938	1944	1940	Hachures, spot elevations	Area 59°22' to 60°35'N; 26°50' to 28°31'30"E. From German, Soviet, Finnish, and Estonian charts. Roads, railroads, vegetation, index of larger-scale German charts of area. Seamarks not carried along Finnish coast.
1:150,000	Finnischer Meerbusen von Seiskari bis Leningrad (Gulf of Finland from Seiskari to Leningrad). Germany No. 153	1940	1943	1944	Hachures, spot elevations	Area 59°43' to 60°30'N; 28°20' to 30°25'E. From Finnish and Soviet charts. Roads, railroads, vegetation, index of larger-scale German charts of area.
c. Large-scale charts:						
1:100,000 at 59°40'	Nordküste von Estland, Kokska bis Koft (Northern coast of Estonia, Kokska to Koft). Insets: Loksa, 1:15,000; Kunda, 1:30,000. Germany No. 118	1942	1944	German 1946	Hachures, spot elevations	Area 59°26' to 60°N; 24°54' to 26°36'E. From Finnish and Estonian charts. Roads, railroads, index of larger-scale German charts of area.
1:75,000	Danziger Bucht, Östlicher Teil und Frisches Haff (Danzig Bay, Eastern Part and Frisches Haff). Insets: Seckanal, Peyser Krümmung (Sea channel, Peyser Bend), 1:20,000; Seckanal, Widitter Krümmung. (Sea Channel, Widitter Bend), 1:20,000; Seckanal von Nautzwinkel bis Königsberg und Königsberger Rinne (Sea channel from Nautzwinkel to Königsberg and Königsberg Narrow Channel), 1:20,000. Germany No. 23	1937	1944	German	Hachures, spot elevations	Area 54°17' to 54°44'N; 18°56' to 20°32'E. From German surveys. Woods, roads, railroads.

TABLE XIII - 2 (Continued)

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
GERMAN CHARTS (Continued):						
c. Large-scale charts (Continued):						
1:75,000 at 59°30'	Nordküste von Estland, Baltisch Port bis Koksär (Northern Coast of Estonia, Baltisch Port to Koksär). Insets: Baltisch Port, 1:4,000; Reval, Neuer Hafen (Tallinn, Neuer Harbor), 1:15,000; Reval, Alter Hafen (Tallinn, Older Harbor), 1:7,500. Germany No. 81	1943	1944	German 1945	Hachures, spot elevations	Area 59°15' to 59°44'N; 23°55' to 25°6'E. From Estonian and Soviet charts. Roads, railroads, vegetation.
1:70,000	Kurisches Haff, Nördlicher Teil (Kurisches Haff, Northern Part). Insets: Die Atmath Mündung (The Mouth of the Atmath), 1:35,000; Hafen von Memel (Memel Harbor), 1:20,000. Germany No. 94	1945	1945	German 1944	Contours, spot elevations	Area 55°16'48" to 55°44'42"N; 21° to 21°20'20"E. From German surveys. Roads, railroads, vegetation.
1:50,000 at 59°40'	Kap Juminda bis Vergi (Cape Juminda to Vergi). Germany No. 1305	1942	1943	German 1945	Contours, spot elevations, cliffs	Area 59°31' to 59°47'N; 25°41' to 26°12'E. From Estonian charts. Roads, railroads. Glossary of non-German terms.
1:50,000 at 59°35'	Vergi bis Aseri (Vergi to Aseri). Germany No. 1306	1942	1944	German 1946	Contours, spot elevations, cliffs	Area 59°29' to 59°45'N; 26°2' to 26°50'E. From Estonian charts. Roads, railroads. Glossary of non-German terms.
1:50,000 at 59°30'	Narva Bucht, Aseri bis Toila (Narva Bay, Aseri to Toila). Germany No. 1307	1942	1944	German 1946	Contours, spot elevations, cliffs	Area 59°22'30" to 59°38'N; 26°48' to 27°36'E. From Estonian charts. Roads, railroads. Glossary of non-German terms.
1:50,000 at 59°30'	Narva Bucht, Toila bis Hungerburg (Narva Bay, Toila to Hungerburg (Narva-Jõesuu)). Germany No. 1308	1942	1944	German 1946	Contours, spot elevations, cliffs	Area 59°21' to 59°36'N; 26°30' to 28°16'E. From Estonian and Soviet charts. Roads, railroads, vegetation. Glossary of non-German terms.
1:50,000 at 60°3'	Kronstadt Bukhta (Kronshtadt Bay). Germany No. 181	1929	1942	German 1939	Hachures	Area 59°54' to 60°12'N; 28°55' to 29°50'E. From Soviet charts. Roads, railroads, vegetation.
1:50,000	Neva Bucht, Kronstadt bis Leningrad (Neva Bay, Kronshtadt to Leningrad). Germany No. 154	1929	1941	German 1938	Hachures, spot elevations	Area 59°50' to 60°7'30"N; 29°31' to 30°25'E. From Soviet charts and plans of Leningrad. Roads, railroads, named buildings, vegetation.
1:50,000 at 59°35'	Wulf bis Kap Juminda (Wulf to Cape Juminda). Germany No. 1304	1942	1944	German 1945	Contours, spot elevations, cliffs	Area 59°28' to 59°44'N; 24°45' to 25°33'E. From Estonian charts. Roads, railroads. Glossary of non-German terms.
1:40,000 at 59°51'	Die Neva, von Leningrad bis Schlüsselburg (The Neva from Leningrad to Schlüsselborg (Petrokrepost)). Germany No. 1330	1942	1942	German 1947	Hachures	Area 59°45' to 59°58'N; 30°21'54" to 31°4'12"E. From Soviet charts. Roads, railroads.
1:25,000 at 57°	Hafen von Riga (Riga Harbor). Germany No. 13	1941	1941	German 1944	.....	Area 56°55' to 57°7'N; 23°52' to 24°9'E. From chart Latvia No. 2, which was based on local surveys of 1930-37, plus later corrections. Railroads, streets, vegetation, trigonometric points.
1:20,000 at 56°33'	Hafen von Libau (Liepāja Harbor). Germany No. 18	1943	1943	German 1944	Hachures	Area 56°29'30" to 56°34'30"N; 20°51' to 21°5'E. From a Latvian chart. Roads, names of buildings, railroads, woods.
1:10,000	Pillau, Einfahrt und Hafen (Pillau (Baltiysk), Approach and Harbor). Germany No. 20	1939	1945	German 1941	Hachures	Area 54°36'18" to 54°39'48"N; 19°50' to 19°59'E. From German surveys, topographic maps, and town plans. Railroads, streets, vegetation.
3. FINNISH CHARTS:***						
a. Medium-scale charts of Gulf of Finland:						
1:285,012	Uts-Glosholm; Suomenlahden länsiosa (Gulf of Finland--western part). Finland No. 7	1922	1945	Finnish, Swedish 1940	.....	Area 58°54' to 60°20'N; 22°21' to 26°E. Railroads and 1944 international boundary changes. Abbreviations explained in both languages.
1:285,012	Glosholm-Kronstadt; Suomenlahden itäosa (Glosholm-Kronshtadt; Gulf of Finland--eastern part). Finland No. 8	1922	1945	Finnish, Swedish 1945	.....	Area 59°20' to 60°44'N; 25°44' to 30°21'E. Railroads and 1944 international boundary changes. Abbreviations explained in both languages.
b. Large-scale charts:						
1:50,000 at 60°20'	Seivästo-Seiskari. Finland No. 11	1942	1945	Finnish, Swedish 1945	.....	Area 59°59' to 60°18'N; 28°13' to 29°8'E. Roads, railroads.
1:50,000 at 60°20'	Viipurin Lahti (Viipuri Bay). Finland No. 12	1943	1945	Finnish, Swedish 1945	.....	Area 60°18' to 60°45'N; 28°13' to 28°51'E. Roads, railroads.

*** Published by Merikarttalaitos (Hydrographic Service of Finland). Each of the small-scale charts has an index of larger-scale Finnish charts within its area.

TABLE XIII - 2 (Continued)

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
b. Large-scale charts (Continued):						
1:50,000 at 60°20'	Someri-Ristniemi. Finland No. 14	1931	1945	Finnish, Swedish 1945	.....	Area 60°7'30" to 60°34'30"N; 27°38' to 28°15'E. Roads.
1:50,000 at 60°20'	Porkkalanselkä, Porkkalafjärd-Kytö. Finland No. 20	1934	1945	Finnish, Swedish 1945	.....	Area 59°44' to 60°11'N; 24°6' to 24°43'E. Roads, boundaries of Soviet leased territory.
4. LATVIAN CHARTS:†						
1:100,000 at 57°	Ventspils-Kolkasrags-Roja. Inset: Ventspils Osta (Ventspils Harbor). Latvia No. 1	1939	....	Latvian, English 1940	.....	Area 57°21' to 57°55'30"N; 21°25' to 22°49'E. From Latvian surveys and Soviet charts. Roads, railroads, vegetation.
1:50,000 at 57°25'	Roja-Būrciems, Insets: Rojas Osta (Roja Harbor), 1:10,000; Mērsrags Osta, (Mērsrags Harbor), 1:10,000. Latvia No. 7	1935	....	Latvian, English 1935	.....	Area 57°14' to 57°35'N; 22°46'30" to 23°17'E. From Latvian surveys of 1932-35. Roads, railroads, vegetation.
1:50,000 at 57°5'	Abragciems-Bulduri. Inset: Ragaciems, 1:10,000. Latvia No. 8	1936	....	Latvian, English 1937	.....	Area 56°56'30" to 57°14'N; 23°10' to 23°52'E. From Latvian surveys of 1934-36. Roads, railroads, vegetation.
1:50,000 at 57°	Garciems-Skulte. Inset: Skultes Osta (Skultes Harbor), 1:5,000. Latvia No. 9	1939	....	Latvian, English 1939	.....	Area 57°5' to 57°24'N; 24°5' to 24°29'E. From Latvian surveys of 1937-38. Roads, railroads, vegetation.
1:30,000 at 56°48'30"	River Lielupe from Jelgava to the Bridge of Bulduri. Latvia No. 5	1931	....	Latvian, English	.....	Area 56°46' to 56°59'N; 23°34' to 23°45'E. With continuation of river to Jelgava. From Latvian surveys of 1927-28. Roads, railroads, vegetation, buildings with names.
1:10,000 at 56°32'	Harbor of Liepāja. Latvia No. 3	1931	....	Latvian, English 1931	.....	Area 56°30' to 56°34'30"N; 20°57' to 21°3'30"E. From Latvian surveys of 1923 to 1930 and a Soviet chart. Complete land coverage with streets, names of buildings, railroads. Table of abbreviations.
5. ESTONIAN CHARTS:††						
1:70,000 at 59°35'	Tallinna Laht (Tallinn Bay). Insets: Aegna Kanaal (Aegna Channel), 1:15,000; Vana Sadam (Tallinn Old Harbor), 1:7,500; Uus Sadam (Tallinn New Harbor), 1:7,500; Bekkeri Tehase Sadam (Bekkeri Harbor Development), 1:7,500; Vene-Balti Tehase Sadam (Balti Harbor Development), 1:7,500; Tallinna Kalasadam (Tallinn Fishing Harbor), 1:5,000. Estonia No. 17	1926	1932	Estonian 1926	Hachures	Area 59°21' to 59°43'N; 23°59' to 25°6'E. Railroads, vegetation, table of abbreviations.
1:20,000 at 59°27'	Tallinna Reid ja Sadamad (Tallinn Road and Harbors). Insets: Tallinna Vanasadam (Tallinn Old Harbor), 1:7,500. Estonia No. 20	1922	1932	Estonian	Hachures	Area 59°25'30" to 59°31'30"N; 24°33' to 24°51'30"E. Railroads, streets, vegetation, named buildings.

† Published by Jürnicibas Departamenta (Latvian Marine Department).

†† Published by Sojagagde Staaei Topohüdograafia Osajand (Topographic and Hydrographic Section of the General Staff of the Army).

TABLE XIII - 3

BLACK SEA AND SEA OF AZOV HYDROGRAPHIC CHARTS *

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
SMALL-SCALE CHARTS:						
1:1,314,852 at 44°	Chernoye i Azovskoye morya (Black Sea and Sea of Azov). USSR No. 1839	1903	1943	1940	Hachures, spot elevations in feet	Area 40°30' to 47°20'N; 27° to 42°20'E. Based on Russian Black Sea hydrographic expeditions 1871-99. Soundings in feet to 30 feet; greater depths in sazhen. Conversion tables—sazhen, meters, and feet. Distances listed from Sevastopol.
1:750,000 at 44°	Zapadnaya chast' Chernogo morya (Western portion of the Black Sea). USSR No. 1522	1935	1943	1940	Spot elevations	Area 40°40' to 47°N; 27°20' to 34°20'E. From Soviet, British, and German charts. Prohibited zones indicated.

* Published in Russian by the Hidrograficheskoye Upravleniye Voenno-Merskogo Flota Soyoza SSR (Hydrographic Administration of the Soviet Navy).

TABLE XIII - 3 (Continued)

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
SMALL-SCALE CHARTS (Continued):						
1:750,000 at 44°	Vostochnaya chast' Chernogo morya (East- ern portion of the Black Sea). USSR No. 1523	1935	1942	1940	Spot elevations	Area 40°40' to 45°25'N; 33° to 42°10'E. From Soviet and German charts.
1:500,000 at 44°	Alushta-Mangaliya. Inset: Port Kon- stanta (Port Constanta), 1:20,000. USSR No. 2310	1940	1942	1940	Spot elevations	Area 43°45' to 47°N; 28°20' to 34°47'E. From Soviet charts.
1:500,000 at 44°	Azovskoye More (Sea of Azov). USSR No. 2212	1943	1944	1945	Relief shading, spot eleva- tions	Area 44°35' to 47°25'N; 34°23' to 40°8'E. From Soviet charts and topographic maps of the General Staff of the Red Army to 1935. Railroads, woods, and other general features cover land area of chart. Table of distances for Sea of Azov ports.
MEDIUM- TO LARGE-SCALE CHARTS:						
1:175,000 at 44°	Ot Kerch'-Yenikal'skogo proliva do goroda Genicheska (From Kerch-Yenikale Strait to Genichesk). USSR No. 1468	1936	1943	1940	.....	Area 45°12' to 46°18'N; 34°45' to 36°55'E. From surveys 1896-1934.
1:172,200 at 46°57'30''	Taganrogskiy zaliv (Gulf of Taganrog). Inset: Gavan' goroda Taganroga (Port of the city of Taganrog), 1:21,000. USSR No. 1800	1900	1943	1940	Hachures, spot elevations in feet	Area 46°30' to 47°25'N; 37°12' to 39°20'E. Based on surveys from 1880-98. Sound- ings in feet.
1:150,000 at 44°	Ot Dnestrovsko-Tsaregradskogo mayaka do Dneprovskogo limana (From Tsare- gradskoye Lighthouse to the Dnepr estuary). USSR No. 2391	1940	1941	1940	Cliffs	Area 45°38' to 46°40'N; 30°20' to 32°20'5'' E. From Soviet charts.
1:150,000 at 44°	Ot mysa Tarkhankut'skogo do mysa Sarych From Cape Tarkhankut to Cape Sarych). USSR No. 2329	1940	1942	1940	Form lines	Area 44°5' to 45°25'N; 32°21' to 33°45'E. From Soviet charts.
1:150,000 at 44°	Ot mysa Khersones do mysa Meganom (From Cape Khersones to Meganom). Insets: Reyd Alushta (Alushta Roads), 1:10,000; Port of Yalta, 1:10,000. USSR No. 2398	1940	1943	1940	Relief shading	Area 43°52' to 44°52'N; 33°10' to 35°8'E. From Soviet charts.
1:150,000 at 44°	Ot mayaka Meganom do Kerch-Yenikal'- skogo proliva (From Meganom Light- house to Kerch-Yenikale Strait). Inset: Bukhta Koktedel' (Koktedel' Bay), 1:25,000. USSR No. 2397	1940	1943	1940	Form lines; spot elevations	Area 44°20' to 45°19'N; 34°57' to 36°54'E. From Soviet charts.
1:150,000 at 44°	Ot mysa Tarkhan do Beysugskovo limana (From Tarkhan Cape to Beysugskiy estuary). Insets: Akhtarskaya bukhta (Akhtarskaya Bay), 1:50,000; Temryuk- skiy port, 1:25,000. USSR No. 2385	1940	1943	1940	Relief shading	Area 45°14' to 46°16'30''N; 36°00'25'' to 38°23'E. Compiled from Soviet charts.
1:109,536 at 45°	Chast' zapadnogo berega Chernogo morya ot Tsaregradskogo girla Dnestrovskogo limana do ust'yev Dunaya (Part of the Western coast of the Black Sea from the Tsaregradskoye Branch of the Dnepr estuary to the mouth of the Danube). Inset: Ostrov Fionisi (Serpent Island), 1:8,400. USSR No. 1768	1896	1943	1943	Hachures; spot elevations in feet	Area 45°9' to 46°6'N; 29°35'28'' to 30°29'28''E. Based on Russian Black Sea hydrographic expeditions of 1882- 86. Soundings in feet to 30 feet; greater depths in sazhen.
1:16,800 at 44°	Bukhta Akmanay (Akmanay Bay). USSR No. 252	1888	1943	.....	Hachures; spot elevations in feet	Area 45°16' to 45°21'N; 35°27' to 35°35'E. Based on Russian Black Sea expeditions. Soundings in feet. Conversion table— feet to meters.

TABLE XIII - 4
CASPIAN SEA HYDROGRAPHIC CHARTS *

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
SMALL-SCALE CHARTS:						
1:138,520	Kaspiyskoye more (Caspian Sea). USSR No. 1665	1879	1943	1940	Spot elevations	Area 35°48' to 47°42'N; 46°15'28'' to 55°50'28''E. From Russian surveys of 1858-71 and 1874 with supplementary work of 1925-29 and 1933-36. Roads.
1:800,000 at 42°	Sovernaya chast' Kaspiyskogo morya (Northern part of the Caspian Sea). USSR No. 1168	1933	1943	1940	.....	Area 43°55' to 47°55'N; 46°35' to 54°50'E. From various Russian surveys to 1936. Areas dangerous for navigation noted.

* Published in Russian by the Gidrograficheskoye Upravleniye VFM.

TABLE XIII - 4 (Continued)

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
LARGE-SCALE CHARTS:						
1:193,662 at 44°30'	Ot Chistoy banki do o. Chechen' (From Chistoy Bank to Chechen' Island). USSR No. 1667	1872	1942	1940	.....	Area 43°43'46" to 45°17'30"N; 1°2' to 2°32' west of Baku (49°52' east of Greenwich). From Russian surveys of 1861-63 with supplementary work to 1937.
1:190,008 at 45°	Ot ostrova Biryuch'ya Kosa do Serebryakovskoy pristani (From Biryeh'ya Kosa Island to Serebryakovskoy Landing). USSR No. 1687	1876	1940	1940	Hachures	Area 44°39'45" to 45°52'15"N; 1°10' to 3°10' west of Baku. From Russian surveys of 1869-72 with supplementary work to 1937.
1:190,008 at 45°	Ot goroda Astrakhani do Chistoy banki (From Astrakhan' to Chistoy Bank). USSR No. 1727	1877	1933	1930	Hachures	Area 45°8' to 46°40'N; 0°53' to 2°23' west of Baku. From Russian surveys of 1872-73 with supplementary work to 1929. Soundings in feet at mean water but they are not stable. The chart has been tied into the Volga triangulation.

TABLE XIII - 5
INTERIOR LAKES HYDROGRAPHIC CHARTS *

Scale	Title	Issue	Correc- tion	Mag- netic varia- tion	Surface features	Description
LAKE ONEGA:						
1:100,000 at 60°	Ot goroda Medvezhegorsk do o-va. Khed (From Medvezhegorsk to Khed Island). USSR No. 4346	1942	1943	1940	Form lines	Area 62°24' to 62°56'N; 34°12' to 35°55'E. From Soviet charts.
1:100,000 at 62°	Ot Petrozavodsk do Mysa Besov Nos (From Petrozavodsk to Cape Besov Nos). USSR No. 4348	1943	1943	1940	Form lines, spot elevations	Area 61°26' to 62°3'N; 34°20' to 36°6'E. From Soviet charts.
1:100,000 at 62°	Ot Mysa Besov Nos do Voznesenskoy pristani (From Cape Besov Nos to Voznesenke Landing). USSR No. 4349	1943	1943	1940	Form lines	Area 60°51' to 61°42'30"N; 35°16' to 36°34'E. From Soviet charts.
LAKE LADOGA:						
1:150,000 at 60°	Severnaya chast' Ladozhskogo ozera (Northern part of Lake Ladoga). Insets: Bukhta Sortanlakhti (Sortanlakhti Bay), 1:15,000; Podkhod K seleniyu Konovets (Approach to Konovets village), 1:15,000. USSR No. 2106	1937	1942	1940	.....	Area 60°48' to 61°46'N; 29°52' to 32°50'E. From Finnish charts corrected to 1937 and Soviet surveys to 1934. Roads.
1:50,000 at 60°	Podkhod k gorody Sortavala (Approach to the town of Sortavala). USSR No. 4304	1941	1944	1945	Form lines	Area 61°32'54" to 61°42'48"N; 30°39'36" to 30°53'E. From recent Finnish charts and old Russian surveys.
LAKES CHUDSKOYE AND PSKOV:						
1:150,000 at 58°30'	Chudskoye i Pskovskoye ozera (Lakes Chudskoye and Pskov). Insets: Farvater (channel) Eesti Vyarav, 1:30,000; Podkhod k seleniyu Praaga (Approach to Praaga Village), 1:30,000; Gavan' Vasknarva (Vasknarva Harbor), 1:15,000; Gavan' Mustvee (Mustvee Harbor), 1:12,000. USSR No. 2188	1941	1942	1940	.....	Area 57°45' to 59°5'N; 26°45' to 28°20'E. From Russian surveys of 1895-1934.

* Published in Russian by the Gidrograficheskoye Upravleniye VFM.

D. Special maps

This section includes all maps covering subjects of general interest that are not classified as topographic sets, general atlases, aeronautical charts, or hydrographic charts. Specialized atlases and books containing a large number of maps on one subject are listed under the subject mapped rather than in the section on general atlases.

The special maps are classified as: 1) physical; 2) political or administrative; 3) peoples; 4) transportation, telecommunications, and power; and 5) economic. If a map shows several features, such as administrative divisions and terrain, it is classified in this report according to its

probable major use. Only maps of major significance are cross-referenced between sections.

Unless otherwise noted all maps are available in the Map Branch, Central Intelligence Agency.

(1) Physical maps (TABLE XIII-6)

Physical maps are classified as general, geologic, ice, climate and vegetation, soils, and military. All of the general maps have gradient tints and include major cultural features. A large number are wall maps for classroom use. The area as a whole is described first, followed by its parts, arranged in geographic order from west to east and north to south. Mineral deposits are

listed with the geologic maps. The best maps of vegetation are to be found in atlases, notably the *Bol'shoy Sovetskiy Atlas*. The *Mil-Geo* series emphasizes the geo-

graphic features of military significance, and the *Ostland Atlas* includes detailed geologic maps of the Baltic states and White Russia.

TABLE XIII - 6
PHYSICAL MAPS

Title	Publisher	Scale, language, and date	Description	Outstanding features
GENERAL MAPS:				
SSSR Evropeyskaya Chast', Fizicheskaya Karta (USSR European Part, Physical Map)	Glavnoye Upravleniye Geodezii i Kartografi (Principal Administration of Geodesy and Cartography)*	1:2,500,000 Russian 1945	Gradient tints, towns classified by population, boundaries of union republics and generalized transport routes.	Wall map stressing physical features.
Höhen-und Gewässerkarte von Ost-Europa (Relief and Hydrographic Map of Eastern Europe)	Generalstab des Heeres (General Staff of the Army)	1:1,500,000 German 1943	4-sheet reprint of color-separation drawings of the 20-sheet <i>Gipsometricheskaya Karta Evropeyskoy Chasti SSSR</i> (Hypsometric Map of European USSR), G. U. G. K, 1941. Gradient tints, topographic names, administrative divisions to oblasts, railroads, roads, and towns classified by population.	Planning map with emphasis on topography.
<i>Fizicheskaya Geografiya SSSR, Evropeyskaya Chast' i Kavkaz</i> (Physical Geography of the USSR, European Part and the Caucasus)	Gosudarstvennoye Uchebno-Pedagogicheskoye Izdatel'stvo (State Textbook Publishing House)	Various scales Russian 1941	Maps of physical features, geomorphology, vegetation, and land forms of European USSR, chiefly at 1:10,000,000 (Crimea at 1:1,000,000); many black-and-white maps throughout the 321-page text by B. F. Dobrynin. Volume in Library of Congress.	Physical features, areas annexed in 1939-41, and details of Crimea.
Map Polski i Krajow Ościennych (Map of Poland and Adjacent Countries)	Wojskowy Instytut Geograficzny (Military Geographic Institute), Edinburgh	1:1,000,000 Polish 1943	Gradient tints, towns classified by population and administrative function, detailed transportation data, <i>powiat</i> (district) boundaries as of 1 January 1938. Western border area between Latvia and Bessarabia covered.	Latest Polish map of the area annexed by USSR in 1939.
Belaruskaya SSR, Fizichnaya Karta (White Russian SSR, Physical Map)	G. U. G. K.	1:750,000 Belorussian 1940	Gradient tints, topographic names, oblast boundaries, towns classified by population, minerals, roads, railroads, canals, heads of navigation.	Physical features of White Russia, wall maps.
Ukrainskaya SSR, Fizicheskaya Karta (Ukrainian SSR, Physical Map)	G. U. G. K.	1:1,000,000 Russian 1940	Gradient tints, town classification by population and administrative function, mineral deposits, railroads, navigation routes.	Physical features of the Ukraine, wall map.
Fizichna Karta Chornomors'kikh Krayiv (Physical Map of the Black Sea Area)	Ukrayins'ke Vidavnistvo (Ukrainian Publishers), Krakow	1:1,500,000 Ukrainian 1942	Gradient tints, towns classified by population, railroads, names of geographic areas.	Physical features of area south of Orël.
Tsentri i Zapad Yevropeyskoy Chasti SSSR (Central and Western European Part of the USSR)	G. U. G. K.	1:1,500,000 Russian 1939	Gradient tints, towns classified by population, and administrative function, oblast boundaries, transport routes, mineral deposits.	Physical features of area from Leningrad to the Ukraine, wall map.
Kirovskaya Oblast', Udmurtskaya i Mariyskaya ASSR, Fizicheskaya Karta (Kirovskaya Oblast', Udmurt ASSR, and Mari ASSR, Physical Map)	G. U. G. K.	1:500,000 Russian 1940	Gradient tints, town classification by population and administrative function, mineral deposits, railroads, navigable rivers.	Physical features of Kirovskaya Oblast', Mari ASSR, and Udmurt ASSR, wall map.
Tatarskaya ASSR, Fizicheskaya Karta (Tatar ASSR, Physical Map)	G. U. G. K.	1:400,000 Russian 1939	Gradient tints, towns classified by population and administrative function, mineral deposits, navigable rivers.	Physical features of Tatar ASSR, wall map.
Povolzh'ye Fizicheskaya Karta (Volga Region, Physical Map)	G. U. G. K.	1:1,500,000 Russian 1939	Gradient tints, towns classified by population and administrative function, oblast boundaries, mineral deposits, transport routes. Insets of climate, soils and vegetation.	Physical features of Volga region below Yaroslavl', wall map.
GEOLOGIC MAPS:				
USSR Minerals Series	Department of State, Div. of Geog. & Cartography	1:25,000,000 English 1944	11 maps on a general Base giving location of principal mineral deposits. Processing plants for the major metals and their capacities are shown. As some of the data are old, the series must be used with caution.	Location of mining and smelting centers.
Skhematicheskaya Karta Prirodnikh Mineral'nykh Vod SSSR (Schematic Map of Natural Minerals Waters of the USSR)	Vsesoyuznyy Nauchno-Issledovatel'skiy Geologicheskii Institut, Komitet po Delam Geologii (All-Union Soviet Geologic Scientific Research Institute, Committee for Geologic Affairs)	1:10,000,000 Russian 1945	The USSR is divided into 31 provinces based on prevailing types of mineral springs. Important springs are located and classified as to kind of water. Towns, railroads, union republic boundaries, and hydrographic features on base.	Location and types of mineral waters.

* Hereafter abbreviated to G. U. G. K.

TABLE XIII - 6 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
GEOLOGIC MAPS (Continued):				
Geologicheskaya Karta SSSR (Geological Map of the USSR)	Komitet po Delam Geologii pri SNK (Committee for Geologic Affairs attached to the Council of People's Commissars)	1:2,500,000 Russian 1940	Map shows geologic age, types of intrusive, glaciers, and maximum limits of continental glaciation on a base giving roads, railroads, 1940 international boundaries, and towns classified by administrative function and by population. 1942 German reprint adds German legend.	Complete geologic map.
Geologicheskaya Karta (Geologic Map)	Komitet po Delam Geologii (Committee for Geologic Affairs)	1:1,000,000 Russian 1936-46	34 sheets give nearly complete geologic coverage including minute stratigraphic detail on a general base map. Each sheet is accompanied by a short descriptive pamphlet. Base map is taken from the planimetric plates of the <i>Gosudarstvennaya Karta SSSR</i> 1:1,000,000 (see topographic section for description), the Soviet equivalent of the International Millionth Map of the World. Sheet layout of the I. M. W. is used.	Detailed geologic data.
Baustoff-Übersichtskarte des europäischen Russland (General Map of Building Materials in European USSR)	Wehrgeologenstab Wannsee (Military-Geologic General Staff, Wannsee)	1:1,000,000 German 1943	Shows distribution of 13 kinds of building material, and factories, chiefly for construction materials; overprinted on Generalstab des Heeres topographic set map. About 30% coverage is available.	Location of building materials.
Baustoffkarte des europäischen Russland (Building Material Map of European USSR)	Wehrgeologenstab Wannsee (Military-Geologic General Staff, Wannsee)	1:300,000 German 1942-43	Shows distribution of 14 kinds of building stone with reliability index and 7 types of factories for construction material; overprinted on Generalstab des Heeres topographic set map. Only 10% coverage, distributed between CIA and AMS, is available.	Detailed location of building materials.
ICE MAPS:				
<i>Ice Atlas of the Northern Hemisphere</i>	U. S. Hydrographic Office	Various scales English 1946	106 pages with many large, clear charts. Effect of ice on navigation is emphasized, heavier ice conditions being given in cases of conflicting information. When the North Pole is included a Polar projection is used, otherwise Mercator. Bibliography of 1,700 items.	Duration and extent of ice.
<i>Atlas der Vereisungsverhältnisse Russlands und Finnlands, ihrer Küstengewässer sowie wirtschaftlich und militärisch wichtigen Binnenwasserstrassen mit textlichen Vorbemerkungen und Tabellen</i> (Atlas of Russian and Finnish Ice Conditions, their coastal waters and inland waterways of economic and military importance, with preface and tables)	Deutsche Seewarte Oberkommando des Kriegsmarine (German Naval Observatory, Navy High Command)	Various scales German 1946	94 maps and 17-page text giving extent, duration, and kind of ice in Finnish and Soviet waters, excluding the Baltic coast south of Ventspils (Windau). Maps generalized; emphasis on the northern and central Baltic.	Ice conditions, greater detail on the Central Baltic than is given in <i>Ice Atlas</i> .
CLIMATE AND VEGETATION MAPS:				
Klimaticheskaya Karta SSSR (Climatic Map of the USSR)	G. U. G. K.	1:5,000,000 Russian 1939	10 rainfall isohyets with layer tints, January and July mean temperatures atmospheric pressure, limit of ocean ice, permafrost boundary, polar weather stations, and selected railroads.	Climatic wall map.
Poland's Possible Contribution to Future Air Transport	Polish Ministry of Industry, Commerce and Shipping, Aeronautical Department, London	Chiefly 1:4,000,000 English 1944	25 maps mainly of climatic conditions pertinent to commercial flying over Poland. Descriptions accompany most maps. Atlas was part of the London Poles' bid for favorable consideration in postwar air traffic.	Climatic features of central portion of western border area.
Zonen Gleicher Humidität und Aridität in der Ukraine (Zones of Equal Humidity and Aridity in the Ukraine)	Petermanns Geogr. Mitteilungen, Vol. 90, No. 3-4, 1944, Map 9	1:3,000,000 German 1944	Zones of various degrees of moisture excess and deficiency on base showing selected railroads and oblast boundaries for all Ukraine and surrounding territory.	Detail of critical climatic factors of Ukraine.
Die Natürlichen Vegetationszonen der Ukraine (The Natural Vegetation Zones of the Ukraine)	Petermanns Geogr. Mitteilungen, Vol. 90, No. 3-4, 1944, Map 8	1:3,000,000 German 1944	5 general types of vegetation on base showing selected railroads and oblast boundaries for all Ukraine and surrounding territory.	Vegetation of Ukraine.

TABLE XIII - 6 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
SOILS MAPS:				
SSSR Pochvennaya Karta (Soils Map of the USSR)	Glavnoye Upravleniye Gosudarstvennoy S'yemki i Kartografii (Principal Administration of State Survey and Cartography)	1:5,000,000 Russian 1938	20 general soil types, several subdivided according to texture.	Wall map of soils.
Bodenkarte des Europäischen Teils der Sowjet-Union (Soil Map of the European Part of the USSR)	Generalstab des Heeres, Abteilung für Kriegskarten und Vermessungswesen (General Staff of the Army, Military Map and Survey Section)	1:2,520,000 German and Russian 1942	German color-separation reprint of 1929-30 Soviet Academy of Sciences map, names in Russian and legend in German. Shows 50 kinds of soil based on combination of type and variety. Towns, railroads, and roads given. Only European USSR as of 1930 is covered, northeastern corner left blank.	Detailed soil map of much of area, with supporting cultural features.
International Soil Map of Europe	International Society of Soil Science. Edited by H. Stremme, Danzig	1:2,500,000 English, French, and German 1925-1937	47 soil types, 16 varieties, and various combinations. Base shows international boundaries but no towns. Only the northeastern corner of the JANIS area is blank. <i>Bodenkarte des Europäischen Teils der Sowjet-Union</i> was used in compilation of this more detailed map.	Detailed soil map covering most of area.
MILITARY MAP:				
Mil.-Geo.-Carte Polen & Mil.-Geo.-Carte Ost Europa (Military-Geographic Map of Poland & Military-Geographic Map of Eastern Europe)	Oberkommando des Heeres, Abteilung für Kriegskarten und Vermessungswesen (Army High Command, Military Map and Survey Section)	1:100,000 and 1:300,000 German 1940-45	Topographic sheets with military-geographic information overprinted. Sheets of the 2 sets at AMS give about 40% coverage of entire area.	Physical features of military significance.

(2) Political maps (TABLE XIII-7)

Political maps are grouped according to the following administrative divisions: the area as a whole, union republics or recently independent countries, and autonomous republics and oblasts. Under the first group the maps are listed in order of their value, whereas maps in the other two groups are arranged alphabetically by the English names of the political areas.

Current oblast boundaries are adequately covered. Maps published within the last ten years cover most of the rayon (county) boundaries or corresponding minor civil divisions within the areas recently annexed by the USSR. No attempt has been made to show the village soviets, although the Army Map Service has a number of rayon maps giving boundaries of village soviets.

TABLE XIII - 7
POLITICAL MAPS

Title	Publisher	Scale, language, and date	Description	Outstanding features
THE AREA AS A WHOLE:				
<i>Population of the Soviet Union: History and Prospects</i> by Frank Lorimer (289 pp., 22 maps, bibliography)	League of Nations, Geneva	1:25,000,000 English 1946	Two maps in series (1616 G and 1629 G) show 1926 and 1939 administrative divisions. CIA has limited number of distribution copies.	Administrative boundaries.
European USSR Administrative Divisions, July 1, 1946	Dept. of State, M. I. No. 10414.1	1:5,000,000 English 1946	International boundaries for 1937 and 1946, oblast boundaries and administrative centers for 1946.	Clear, concise presentation of current oblast boundaries.
Politiko-Administrativnaya Karta SSSR (Politico-Administrative Map of USSR)	Glavnoye Upravleniye Geodezii i Kartografii (Principal Administration of Geodesy and Cartography)*	1:5,000,000 Russian 1946	Oblast boundaries, towns classified by population and administrative function, transportation routes, relief shading.	Most recent official map showing oblast boundaries.
Yevropeyskaya Chast' SSSR Politiko-Administrativnaya Karta (European Part of USSR Politico-Administrative Map)	G. U. G. K.	1:3,500,000 Russian 1945	Oblast boundaries before August 1945 revision of USSR-Poland border, towns classified by population and administrative function, transportation routes.	Early 1945 official map showing oblast boundaries in greater detail than previous map.
Verwaltungskarte (Administration Map)	Wirtschaftsstab Ost (Economic Staff for the Eastern Areas), Berlin	1:1,000,000 German 1943	Soviet rayon boundaries and administrative centers for the area from the 1943 Rumanian and German boundaries east to Rostov and north to Leningrad. Corresponding German administrative boundaries are given for the area under Axis control. The map is black and white.	Rayon boundaries for a large portion of European USSR, and German administrative detail for 1943.

* Hereafter abbreviated to G. U. G. K.

TABLE XIII - 7 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
THE AREA AS A WHOLE (Continued):				
Verwaltungskarte des nord-westlichen Europäischen Russland (Administration Map of Northwestern European USSR)	Reichsministerium des Innern (Reich Ministry of the Interior)	1:1,500,000 German 1941	1926 rayon boundaries with comparable administrative boundaries of areas annexed to the USSR 1939-40, population distribution generalized by larger areas, and oblast boundaries for 1941.	Rayon boundaries for most of USSR west and north of Kursk.
Verwaltungskarte der Ukraine und der östlich angrenzenden Gebiete (Administration Map of Ukraine and the Eastern Border Areas)	Karten-Abteilung des Deutschen Ausland-Instituts (Map Section of the German Foreign Institute), Stuttgart	1:1,500,000 German 1941	1926 rayon boundaries of the Ukraine and adjoining regions, boundaries of comparable administrative units outside the USSR, and oblast boundaries for 1941. Population generalized by large areas.	Rayon boundaries for most of European USSR south of 52°N.
UNION REPUBLICS AND RECENTLY INDEPENDENT COUNTRIES:				
Belaruskaya SSR, Administratsyynaya Karta (White Russian SSR, Administrative Map)	G. U. G. K.	1:1,000,000 Belorussian 1940	Boundaries to rayons, towns classified by population and administrative function, transportation routes. File copy at AMS.	Administrative divisions of White Russian SSR.
Podrobný Pfehled Politického Rozdělení Země Slovenské a Podkarpatoruské (Detailed Survey of the Political Divisions of Slovakia and Carpathian Ruthenia)	Vojenský Zeměpisný Ústav (Military Geographic Institute)	1:360,000 Czech 1936	Administrative divisions to <i>obecní</i> (township), towns classified by population, roads, and railroads. Marginal coordinates based on Ferro, 17°40'W of Greenwich.	Minor civil divisions of the former Czech portion of USSR.
Ravensteins Bürokarte Nr. 10: Provinz Ostpreussen (Ravenstein's Office Map No. 10: Province of East Prussia)	Ravensteins Geographische Verlagsanstalt u. Druckerei, Frankfurt-am-Main	1:300,000 German 1941	Administrative boundaries to <i>Land</i> and <i>Stadtkreise</i> ; 4 types each of roads and railroads, towns classified by population, spot elevations, and woods.	Minor civil divisions of northern East Prussia.
Generalbeziirk Estland (General Map of Estonia)	Eesti Statistika Valitsuse (Estonian Statistical Office)	1:400,000 German and Estonian 1943	Administrative boundaries and centers to minor civil divisions, two railroad gages, two classes of roads, cities classified by population, gradient tints.	Minor civil divisions of Estonia.
Latvijas Karte ar Attālumiem Kilometros uz Sosejām un Lielceļiem (Map of Latvia with Distances in Kilometers along Main Roads, and Other Roads)	Ernest Plates, Riga	1:500,000 Latvian 1938	Administrative boundaries and centers to minor civil divisions, two railroad gages, three types of roads with distances indicated, marginal gazetteer keyed to atlas-grid.	Minor civil divisions of Latvia
Die Verbreitung der Deutschen in Litauen (The Distribution of Germans in Lithuania)	Publikationsstelle, Berlin	1:300,000 German 1935	Detailed location of German settlers as of 1923 on a base showing <i>apskričių</i> (district) boundaries, woods, and swamps. No coordinates.	Administrative divisions of Lithuania.
Carte Routière de Lithuanie (Road Map of Lithuania)	Lietuvos Automobiliu Klūbas (Lithuanian Automobile Club), Kaunas	1:500,000 Lithuanian, German, and French 1939	<i>Apskričių</i> boundaries and administrative centers given but somewhat obscured by detailed road pattern and woods symbols.	Administrative divisions of Lithuania.
Mapa Gmin Rzeczypospolitej Polskiej (Map of Communes of the Republic of Poland)	Główny Urząd Statystyczny (Main Census Bureau), Warsaw	1:1,000,000 Polish 1938	Internal boundaries and administrative centers to the <i>gmina</i> (commune) as of 1 April 1938. After incorporation into the USSR, these internal boundaries underwent such extensive changes that they may have little current significance.	Detailed internal divisions of the former Polish area of USSR.
Verwaltungskarte der Ukrainische Sowjetrepublik (Administration Map of the Ukrainian Soviet Republic)	Reichsamt für Landesaufnahme (Reich Land Survey Office)	1:1,250,000 German 1942	Boundaries to rayons as of September 1940, towns classified by population and administrative function, transportation routes.	Rayon boundaries of Ukraine.
AUTONOMOUS REPUBLICS AND OBLASTS:				
Administrativnaya Karta Arkhangel'skoy Oblasti: (Administrative Map of Arkhangel'skaya Oblast')	Glavnoye Upravleniye Gosudarstvennoy S'yemki i Kartografii (Principal Administration of State Survey and Cartography)**	1:500,000 Russian 1938	Rayon boundaries, towns classified by population and administrative function, transportation routes. Inset: <i>Nenetskiy Natsional'nyy Okrug</i> , 1:3,000,000. File copy at AMS.	Rayon boundaries of Arkhangel'skaya Oblast'.
Administrativnaya Karta Chuvashskoy ASSR (Administrative Map of Chuvash ASSR)	G. U. G. K.	1:300,000 Russian 1939	Rayon boundaries, towns classified by administrative function, transportation routes. Inset: <i>Cheboksary</i> , 1:25,000. File copy at AMS.	Rayon boundaries of Chuvash ASSR.
Administrativnaya Karta Krymskoy ASSR (Administrative Map of Crimean ASSR)	G. U. G. S. K.	1:500,000 Russian 1937	Rayon boundaries, towns classified by population, transportation routes, tractor station. File copy at AMS.	Rayon boundaries of Crimean ASSR (now Krymskaya Oblast').

** Hereafter abbreviated to G. U. G. S. K.

TABLE XIII - 7 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
AUTONOMOUS REPUBLICS AND OBLASTS (Continued):				
Gorkovskoy Oblast'	G. U. G. K.	1:500,000 Russian 1940	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. Inset of Gor'kiy, 1:100,000. File copy at AMS.	Rayon boundaries of Gorkovskaya Oblast'.
Administrativnaya Karta Ivanovskoy Oblasti (Administrative Map of Ivanovskaya Oblast')	G. U. G. K.	1:500,000 Russian 1940	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. Inset of Ivanovo, 1:50,000. File copy at AMS.	Rayon boundaries of Ivanovskaya Oblast'.
Verwaltungskarte der Autonomen Kalmücken Republik ASSR (Administrative Map of Kalmyk ASSR)	Kreiskarten und Vermessungsamt (Military Map and Survey Office), Khar'kov	1:600,000 German 1942	Rayon boundaries as of June 1939, towns classified by administrative function, transportation routes, tractor stations; and telephone, telegraph and postal stations. German completion in monochrome of G. U. G. K. map. File copy at AMS.	Rayon boundaries of Kalmyk ASSR, most of which has now been incorporated into Astrakhanskaya Oblast'.
Kirovskaya Oblast'	G. U. G. K.	1:500,000 Russian 1940	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. File copy at AMS.	Rayon boundaries of Kirovskaya Oblast'.
Karta Komi ASSR (Map of Komi ASSR)	G. U. G. S. K.	1:1,000,000 Russian 1938	Rayon boundaries, towns classified by population and administrative function, transportation routes. Inset of Syktyvkar, 1:30,000.	Rayon boundaries of Komi ASSR.
Administrativnaya Karta Kuybyshevskoy Oblasti (Administrative Map of Kuybyshevskaya Oblast')	G. U. G. S. K.	1:500,000 Russian 1938	Rayon boundaries, towns classified by administrative function, 50-meter contour intervals, transportation routes, tractor stations. File copy at AMS.	Rayon boundaries of Kuybyshevskaya Oblast'.
Administrativnaya Karta Leningradskoy Oblasti (Administrative Map of Leningradskaya Oblast')	G. U. G. K.	1:500,000 Russian 1940	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, collective farms, mines, health resorts.	Rayon boundaries of Leningradskaya Oblast'.
Mariiskaya ASSR (Mari ASSR)	G. U. G. K.	1:400,000 Russian 1939	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. Inset of Yoshkar-Ola, 1:40,000.	Rayon boundaries of Mari ASSR.
Mordovskaya ASSR, Administrativnaya Karta (Mordvian ASSR, Administrative Map)	G. U. G. K.	1:500,000 Russian 1939	Rayon boundaries, towns classified by population and by administrative function, transportation routes, tractor stations, state farms, woods. Inset of Saransk, 1:25,000.	Rayon boundaries of Mordovian ASSR.
Karta Moskovskoy Oblasti (Map of Moskovskaya Oblast')	Moskovskaya Oblastnaya Planovaya Komissiya (Moskovskaya Oblast' Planning Commission)	1:300,000 Russian 1939	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms, reliability diagram.	Rayon boundaries of Moskovskaya Oblast'.
Murmanskaya Oblast' (Murmanskaya Oblast')	G. U. G. K.	1:750,000 Russian 1940	Rayon boundaries, towns classified by population and administrative function, transportation routes, tundra, forests, lighthouses, telegraph and postal stations. File copy at AMS.	Rayon boundaries of Murmanskaya Oblast'.
Administrativnaya Karta Orlovskoy Oblasti (Administrative Map of Orlovskaya Oblast')	G. U. G. K.	1:500,000 Russian 1939	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. File copy at AMS.	Rayon boundaries of Orlovskaya Oblast'.
Administrativnaya Karta Penzenskoy Oblasti (Administrative Map of Penzenskaya Oblast')	G. U. G. K.	1:500,000 Russian 1939	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. File copy at AMS.	Rayon boundaries of Penzenskaya Oblast'.
Rostovskaya Oblast' Administrativnaya Karta (Rostovskaya Oblast', Administrative Map)	G. U. G. K.	1:500,000 Russian 1939	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. File copy at AMS.	Rayon boundaries of Rostovskaya Oblast'.
Ryazanskaya Oblast' Administrativnaya Karta (Ryazanskaya Oblast', Administrative Map)	G. U. G. K.	1:500,000 Russian 1939	Rayon boundaries, towns classified by administrative function, transportation routes.	Rayon boundaries of Ryazanskaya Oblast'.
Skhematiceskaya Karta Saratovskoy Oblasti (Schematic Map of Saratovskaya Oblast')	Kartpredpriyatiye Otdela Zemleustroystva Saratovskogo Obl'zo (Cartographic Service of the Land Regulation Division, Saratovskaya Oblast')	1:1,000,000 Russian 1939	Rayon boundaries, towns classified by administrative function, roads, railroads, navigable rivers.	Rayon boundaries of Saratovskaya Oblast'.

TABLE XIII - 7 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
AUTONOMOUS REPUBLICS AND OBLASTS (Continued):				
Smolenskaya Oblast', Administrativnaya Karta (Smolenskaya Oblast', Administrative Map)	G. U. G. K.	1:500,000 Russian 1940	Rayon boundaries, towns classified by administrative functions, transportation routes. File copy at AMS.	Rayon boundaries of Smolenskaya Oblast'.
Tatarskaya ASSR, Administrativnaya Karta (Tatar ASSR, Administrative Map)	G. U. G. K.	1:500,000 Russian 1940	Rayon boundaries, towns classified by population, transportation routes.	Rayon boundaries of Tatar ASSR.
Tul'skaya Oblast', Administrativnaya Karta (Tul'skaya Oblast, Administrative Map)	G. U. G. K.	1:500,000 Russian 1939	Rayon boundaries, towns classified by administrative function, transportation routes, mines, tractor stations. File copy at AMS.	Rayon boundaries of Tul'skaya Oblast'.
Udmurtskaya ASSR, Administrativnaya Karta (Udmurt ASSR, Administrative Map)	G. U. G. K.	1:400,000 Russian 1939	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms. This black and white copy may be a preliminary edition of map designed for issue in color. File copy at AMS.	Rayon boundaries of Udmurt ASSR.
Administrativnaya Karta ASSR Nemtsev Povolzh'ya (Administrative Map of Volga-German ASSR)	G. U. G. S. K.	1:250,000 Russian 1938	Rayon boundaries, towns classified by population and administrative function, transportation routes, industrial and agricultural enterprises, tractor stations, hospitals, sanatoria. Black and white file copy at AMS.	Rayon boundaries of German Volga ASSR that have become rayons of Saratovskaya Oblast'.
Voronezhskaya Oblast' Administrativnaya Karta (Voronezhskaya Oblast', Administrative Map)	G. U. G. S. K.	1:500,000 Russian 1938	Rayon boundaries, towns classified by population and administrative function, 40-meter contour intervals, transportation routes, tractor stations, mines, flour mills. Inset of Voronezh, 1:50,000. Monochrome copy at AMS.	Rayon boundaries of Voronezhskaya Oblast'.
Administrativnaya Karta Yaroslavskoy Oblasti (Administrative Map of Yaroslavskaya Oblast')	G. U. G. K.	1:500,000 Russian 1940	Rayon boundaries, towns classified by population and administrative function, transportation routes, tractor stations, state farms, peat bogs. Inset: Yaroslavl', 1:50,000. File copy at AMS.	Rayon boundaries of Yaroslavskaya Oblast'.

(3) Maps showing distribution of peoples (TABLE XIII-8)

This section includes maps showing the distribution of population, ethnic groups, religions, languages, and health. The maps are listed roughly in order of their

value. Except for the German studies of ethnic distribution in the northwestern part of the area, all of the maps are highly generalized. The subject of health is limited largely to incidence of malaria and infant mortality.

TABLE XIII - 8
MAPS SHOWING DISTRIBUTION OF PEOPLES

Title	Publisher	Scale, language, and date	Description	Outstanding features
European USSR (excluding the Caucasus), Population Density	CIA No. 10455	1:10,500,000 English 1948	Distribution of population shown by 7 rural density groups and 6 town size symbols. Oblast boundaries for 1946 and international boundaries for 1937 and 1946. Based on latest official census figures and <i>Bol'shoy Sovetskiiy Atlas</i> .	Population density.
European USSR (excluding the Caucasus), Ethnic Groups (Before 1939)	CIA No. 10443	1:8,500,000 English 1948	Distribution of population according to 26 nationalities; 1946 oblast boundaries, 1937 and 1946 international boundaries. Distribution of peoples in western border areas not clear.	Distribution of nationalities.
<i>The Population of the Soviet Union: History and Prospects</i> , by Frank Lorimer (289 pp., 22 maps, bibliography)	League of Nations, Geneva	1:25,000,000 English 1946	Of the 22 maps prepared by the Department of State and drawn by the AGS to illustrate text, 17 show various aspects of population density, change in density, migration, literacy, infant mortality, reproduction ratio, etc. Data are given by administrative and census areas. CIA has limited number of distribution copies (1616G-1619G, 1621G, 1623G-1635G).	Demographic problems treated carefully.
Europe, Dominant Religious Groups	CIA No. 10118	1:8,750,000 English October 1946	Location of dominant religious groups, with indications of appreciable minorities. 1937 international boundaries and selected cities provide orientation. Outside the USSR, data are for the 1930's.	Distribution of religious groups in the area acquired by the USSR after 1939.

TABLE XIII - 8. (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
Map of Poland and Adjacent Countries Showing Nationalities, Languages and Religions	Dr. Bogdan Zaborski	1:4,000,000 English 1943	Distribution of 35 combination groups of nationalities and religions in Poland and surrounding area, with 1938 international boundaries as a background. The map is black and white.	Religion and nationality distribution in the USSR-Poland border area before 1939.
<i>Die Bevölkerung Estlands und Lettlands</i> (The Peoples of Estonia and Latvia), by K. von Maydell	S. Hirzel, Leipzig	1:1,000,000 German 1940	Distribution of population according to 11 nationalities or religions by minor civil divisions; percentage of total population indicated by 3 degrees of shading. Overprinted on detailed administrative base map. Statistics for 1934-35.	Details of ethnic distribution for Estonia and Latvia.
<i>Die Bevölkerung des nordwestlichen europäischen Russland in ihren nationalen Gefüge</i> (The People of northwestern European USSR in their National setting)	Reichministerium des Innern (Reich Ministry of the Interior)	1:1,500,000 German 1942	Distribution of 17 ethnic groups by 1939 rayons or comparable subdivisions for the northwestern quarter of European USSR; percentage of total population indicated by 4 degrees of shading. Jews are omitted. Oblast boundaries for 1941 have been added.	Peoples of northwestern European USSR.
Map of Distribution of Peoples of the Far North of USSR	Northern Tribes Assistance Committee of the All-Russian Central Executive Committee	1:5,000,000 English and Russian 1933	Distribution of 23 northern peoples of the USSR, with density of each indicated. Distinction is made between permanent settlers and nomads. For towns established between 1926 and 1933, the figures are for the latter year; elsewhere for 1926-27.	Distribution of peoples in the Soviet North.
Karta Ukrayins'kikh Hovoriv (Map of Ukrainian Dialects)	Ukrayins'kiy Naukoviy Institut (Ukrainian Scientific Institute), Warsaw	1:4,000,000 Ukrainian 1933	Distribution of 14 Ukrainian dialects presented on map and explained in 20-page pamphlet published in Ukrainian with French summary.	Breakdown of Ukrainian population by language.
European USSR, Malaria Morbidity and Control Stations	CIA No. 10454	1:13,250,000 English 1947	Distribution of incidence of malaria and location of control stations on a base showing generalized incidence of malaria by 1929 oblasts. Data was taken from the 1936 <i>Soviet Medical Encyclopedia</i> .	Distribution of incidence of malaria.

(4) Transportation, telecommunications, and power

The location of transport routes is shown most accurately on the latest official topographic sheets of the area. Some of the general atlases also contain significant information not found elsewhere. The *Mil-Geo* study of European USSR includes a railroad map that shows single, double, and multiple tracks; and indicates whether the lines handle heavy or light traffic. This same study includes a waterways map that gives periods of frozen water, areas subject to flooding, and other data pertinent to the

planning of overland military movements. The *Ice Atlas of the Northern Hemisphere* (TABLE XIII-6), *Ostland-Atlas*, and the *Atlas of Finland* also give useful information on waterways. *Yevropeyskaya Chast' SSSR, Politiko-Administrativnaya Karta*, 1:3,500,000, has the most recent information on railroad lines. (See TABLE XIII-7.)

In TABLE XIII-9 communications maps are grouped as follows: railroads and waterways (and time zones); roads; telecommunications; and power. Within each group the maps are arranged in order of their value.

TABLE XIII - 9
TRANSPORTATION, TELECOMMUNICATIONS, AND POWER MAPS

Title	Publisher	Scale, language, and date	Description	Outstanding features
RAILROADS, WATERWAYS, AND TIME ZONES:				
Railroads of Western USSR	CIA Nos. 6173-4	1:3,700,000 English 14 February 1945	Same as CIA No. 3157-8, but omits railroad administration districts and uses stub in place of full coordinates. Railroads shown clearly but map contains minor errors.	General map of Soviet railroads.
Railroads of Western USSR, Showing Railroad Administrative Divisions	CIA Nos. 3157-8	1:3,700,000 English 11 December 1944	Railroad gage, number of tracks, electrified lines, lines under construction, projected lines, and railroad administrative districts for 1941 are shown on a base giving rivers, towns, and international boundaries for 1937 and 1941. Insets of Leningrad, Moscow, and Donbass give additional detail. Cases of doubtful accuracy are explained, but there are many minor inaccuracies.	Railroad administration districts.
Skhema Zheeznodorozhnykh i Vodnykh Putey Soobshcheniya Soyuza SSR (Plan of Rail and Water Communications of the USSR)	Narodnyy Komissariat Putey Soobshcheniya (People's Commissariat of Ways of Communication)	1:2,800,000 Russian 1941	Railroads with administrative districts and centers, stations, distances, canals, navigable rivers, ocean steamer routes, and river ports are shown on a base giving hydrographic features in detail.	Latest detailed official map of railroads and waterways.

TABLE XIII - 9 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
RAILROADS, WATERWAYS, AND TIME ZONES (Continued):				
Eisenbahn-Atlas Russland (Railroad Atlas of the USSR)	No authority	No scale German No date	Schematic maps of 47 railroad districts, including rail divisions, stations, distances, and projected lines. The Polish area transferred to the USSR in 1939 is included. A 92-page gazetteer locates all stations by atlas-grid. German transliterations of Russian names and the schematic nature of the maps restrict their usability.	Location of railroad stations.
Pyatiletniy Plan Vosstanovleniya i Razvitiya Zheleznodorozhnogo Transporta na 1946-1950 god (Five-Year Plan for the Restoration and Development of Railroad Transportation for 1946-1950)	Supplement to <i>Zheleznodorozhnyy Transport v novoy Stalinskoy Pyatiletke</i> by I. V. Kovalyova	No scale Russian 1946 (?)	Schematic presentation of restored double-track lines, recently built lines, those to be completed by 1950, electrified lines, and those being electrified. More reliable but less clear than <i>Railroads in the USSR during Fourth Five-Year Plan</i> .	Summary of recent and proposed railroad development in the USSR.
Railroads in the USSR during Fourth Five-Year Plan	<i>The American Review on the Soviet Union</i> , Vol. VIII, No. 2, pp. 40-41	1:21,000,000 English March 1947	Railroad lines to be built, double-tracked, or electrified during 1946-50. Existing double tracks, and new and other lines are shown in relation to selected towns and 1946 international boundaries. Insets of Leningrad and Moscow. No coordinates.	Summary of lines built during war and railroad construction planned for 1946-50.
<i>Ud. SSR, WirtschaftsAtlas Verkehr, Binnenschifffahrt</i> (USSR, Economic Atlas, Transportation, Inland Waterways)	Reichsverkehrsministeriums, Binnenschifffahrt Ost und Statistischen Reichsamts, Zentralreferat Auslandsforschung (Eastern Inland Waterways of the State Transport Ministry and the Foreign Research Center of the State Statistical Office)	No scale German 1944	50 pages of bar graphs analyzing Soviet inland waterways by river and by commodity carried. 11 maps cover European USSR rivers giving freight movements by commodity and the administrative divisions for shipping. All maps are schematic and in black and white. Information is for 1938.	Analysis of freight movement on USSR rivers.
Skhematicheskaya Karta Zheleznodorozhnykh, Vodnykh i Avtomobil'nykh Putey Soobshcheniya SSSR (Schematic Map of Rail, Water, and Automobile Routes in the USSR)	Narodnyy Komissariat Putey Soobshcheniya (People's Commissariat for Communication)	1:2,250,000 Russian 1933	River ports and railroad stations shown in detail, with distances between selected points. Railroads are divided by gage, number of tracks, and administrative districts. Navigable rivers with regular and irregular steamer service are also shown. Road information is entirely out-of-date.	Location of minor river ports.
Karta Vnutrennykh Vodnykh Putey Yevropeyskoy Chasti SSSR (Map of Inland Waterways of the European Part of the USSR)	Narodnyy Komissariat Putey Soobshcheniya (People's Commissariat for Communication)	1:1,500,000 Russian 1929	Rivers are divided according to navigability by boats or rafts. 4 classes of ocean ports, river distances, elevations along river routes, navigable and drainage canals, steamer routes, and waterway districts with their administrative centers are also shown. 14 insets give greater detail, especially as to locks, dams, and rapids in critical areas.	Detail on inland waterways.
<i>Atlas Komandira RKKA</i> (Commander's Atlas of the Workers and Peasants Red Army)	General'nyy Shtab RKKA (General Staff of the Workers and Peasants Red Army), Moscow	Various scales Russian 1938	World atlas of 39 plates, with 69-page gazetteer. Most useful map is that of the time zones of the USSR superimposed on the 1:10,000,000 transportation map.	Time zones of the USSR (to some extent out-of-date).
ROADS:				
Europäisches Russland Strassenkarte (European USSR Road Map)	Generalstab des Heeres, Abteilung für Kriegskarten und Vermessungswesen (General Staff of the Army, Military Mapping and Survey Section)	1:2,500,000 German January 1944	5 types of roads, road distances, passes, and 4 types of railroads are shown on a base giving rivers, towns, forests, and 1944 international boundaries. This map, which is a later edition of the <i>Mil-Geo</i> road map, incorporates many corrections in road and railroad alignment.	Most recent road map of entire area.
Strassenzustandskarte der besetzten Ostgebiete (Road-Condition Map of Eastern Occupied Territory)	Generalstab des Heeres Abteilung für Kriegskarten und Vermessungswesen (General Staff of the Army, Military Map and Survey Section)	1:1,000,000 German 1942	8 types of roads and 1942 international boundaries overprinted on German operations map of southwestern European USSR.	Reliable detail on road conditions.
Map of Road Building Materials in the European Part of USSR	Central Scientific Research Institute for Highways and Road Building Machinery	1:1,500,000 English and Russian 1935	23 types of road building material, limit of glacial boulders, and limit of frozen ground. Roads are classified as paved and unpaved, and by governmental unit responsible for maintenance. Other transport routes shown on the base.	Location of road-building material and governmental jurisdiction over roads.

TABLE XIII - 9 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
TELECOMMUNICATIONS:				
European USSR (excluding the Caucasus) Telephone and Telegraph Net	CIA No. 10425	1:7,000,000 English 1947	Telephone and telegraph lines, stations, domestic and international cables. International boundaries are for 1937 and 1947. Information on cables has been revised from recent intelligence sources, but other telecommunication data has been copied from a 1941 German map.	Telecommunications.
Skhema Telegrafnykh i Telefonnykh Liniy . . . Belorusskogo Osobogo Voenno-go Okruga (Diagram of the Telegraph and Telephone Lines of White Russian Special Military District)	Belorusskiy Osobyy Voen-nyy Okrug (White Russian Special Military District)	No scale Russian 1 October 1938	Various kinds of telephone and telegraph lines and stations are shown for the Belorussian Military District, which includes all of the White Russian SSR as of 1938 and the area eastward to Kalinin and Bryansk. Black and white.	Detail of telecommunica-tions in the White Rus-sian area.
POWER:				
List of Power Plants of the USSR	Intelligence Division, U. S. War Department	Various scales English 28 October 1946	General and sectional maps give electric power plants and lines according to size. Coordinates appear only on the general map; all are black and white, with a minimum of detail. Extensive text gives description of individual plants. Translation of German report of 1 April 1944.	Information on electric power plants and lines.
Atlas Energeticheskikh Resur-sov SSSR (Atlas of Power Resources of the USSR)	Gosudarstvennoye Ener-geticheskoye Izdatel'stvo (State Power Publishing House)	Mainly 1:1,500,000 Russian 1933-34	Potential solar and wind energy of the USSR given on maps at 1:10,000,000; 7 other forms of energy are presented in detail on 16 sheets. Except for forests, exploitation of sources of energy is included. The Severnaya Dvina-Pechora and the Ukraine-Crimea sheets are missing from the CIA copy.	Comprehensive picture of energy resources.
Ekonomicheskaya Geografiya SSSR (Economic Geog-raphy of the USSR) by Balzak, Vasyutin, and Feygin.	Akademiya Nauk SSSR, Institut Ekonomiki (Academy of Sciences of the USSR, Institute of Economics), Moscow	Chiefly 1:30,000,000 for European USSR and 1:1,000,000 to 1:4,000,000 for selected regions. Russian 1940	Part 1 of volume contains 60 economic maps of European USSR and Part 2, 90 regional maps of the area. Both parts are essentially reworkings in monochrome of the <i>Bol'shoy Sovetskiy Atlas</i> , with a complete text. The German translation, <i>Wirtschaftsgeo-graphie der Ud. SSR</i> (Economic Geog-raphy of the USSR), Berlin-Dahlem, 1942-44, includes all of Part 2 and much of Part 1. Most of the maps are in Russian. An English translation of Part 1 with a complete redrafting of all maps prepared under the auspices of the American Council of Learned So-cieties, is now in process of publication.	Comprehensive economic maps.

(5) *Economic maps* (TABLE XIII-10)

The best economic maps of western USSR are found in the atlases, particularly the *Bol'shoy Sovetskiy Atlas*. Regional atlases also present a large amount of valuable information for the areas covered. Mineral deposits are

listed with geologic maps in the section on physical maps. The first two works described in this section are actually reworkings of the economic maps in the *Bol'shoy Sovet-skiy Atlas*. The last map, on the economy of Kirovskaya Oblast', is probably one of a series of Soviet regional eco-nomic maps, but no others are available.

TABLE XIII - 10

ECONOMIC MAPS

Title	Publisher	Scale, language, and date	Description	Outstanding features
<i>Wehrgeographischer Atlas der Union der Sozialischen Sowjet-republiken</i> (Military Geo-graphic Atlas of the Union of Socialist Soviet Republics)	Reichsdruckerei (State Pub-lishing House)	Chiefly without scale German 1941	226 maps, 6 pages giving name changes, and 1 on pronunciation of Russian place names. Most maps are black and white, without coordinates, and cover either the entire USSR or the European part. The bulk of the material appears to be a reworking in monochrome of the economic maps of Vol. 1 of the <i>Bol'shoy Sovetskiy Atlas</i> , although additional strategic maps show production in 1940. Some physical and historic maps of military significance are in-	Comprehensive series of economic maps with some 1940 production figures.

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MAP APPRAISAL

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TABLE XIII - 10 (Continued)

Title	Publisher	Scale, language, and date	Description	Outstanding features
<i>Wehrgeographischer Atlas, etc.</i> (Continued)			cluded. Dr. Ritter von Niedermayer, an outstanding military geographer, edited the atlas.	
<i>Goering's Atlas</i>	U. S. Office of Military Government for Germany, Berlin	No scale English 1946	33 maps of greater Germany without coordinates show raw material resources and industrial plants of primary importance to the war effort. Three complete maps and parts of a number of the other sheets cover the German-occupied portion of the USSR. These maps were compiled in 1944 for Reichsmarschall Goering.	Strategic raw materials and industrial plants.
<i>Al'bom Kart-Skhem Ekonomicheskikh Rayonov Soyuz SSR</i> (Album of Plans of the Economic Regions of the USSR)	Glavnoye Upravleniye Geodezii i Kartografi (Principal Administration of Geodesy and Cartography)	Chiefly 1:2,000,000 Russian 1944	Index map and one sheet each for the 13 economic regions of USSR. Maps are unbound and without coordinates. Major transport features and oblast boundaries are shown. The set has been reproduced in monochrome with boundaries revised to 1946 (CIA Nos. 10472-85). These sheets are satisfactory except that railroads in use cannot be differentiated from those projected.	Base maps for economic regions.
<i>Die Wehrwirtschaft der Union der Sozialistischen Sowjet-Republiken</i> (The Military Economy of the Union of Soviet Socialist Republics)	Oberkommando der Wehrmacht Wehrwirtschafts- und Rüstungsamt (High Command of the Army, Military Economy and Preparations Office)	1:4,000,000 German 1941	16 unbound maps, including 9 of European USSR, without coordinates. Population and the major economic aspects of military significance are covered. 3 small, thoroughly cross-referenced volumes of tables and text supplement the maps.	Strategic economic factors.
<i>Promyshlennost' SSSR na nachalo 2^o Pyatiletki, Geograficheskii Atlas</i> (Industry of the USSR at the beginning of the Second Five-Year Plan, A Geographic Atlas)	Vsesoyuznyy Kartograficheskii Trest (All-Union Cartographic Trust)	Chiefly 1:7,000,000 Russian 1934	64 unbound maps from GOSPLAN material to 1 January 1933 present Soviet production by industry according to units of production or number of workers. File copy in USSR Division, Office of International Trade, Department of Commerce; Japanese edition in CIA.	Quantitative production figures which on more recent Soviet maps are usually hidden by ruble values.
<i>Polen und seine Wirtschaft</i> (Poland and Its Economy)	Institut für Osteuropäische Wirtschaft (Institute for Eastern European Economy), Königsberg (now Kaliningrad)	No scale German 1937	350 black-and-white maps with coordinates, supplemented by 60 pages of text. Economy constitutes the bulk of material but some attention is given to physical setting, population, history, culture, and military strength.	Economy of Poland.
<i>Ekonomicheskii Atlas Murmanskogo Okruga Leningradskoy Oblasti</i> (Economic Atlas of the Murmansk Okrug of Leningradskaya Oblast')	Murmansk Filial Geografiko-Ekonomicheskogo Nauchno-Issledovatel'skogo Instituta Leningradskogo Gosudarstvennogo Universiteta (Murmansk Branch of the Economic Geography Research Institute of the Leningrad State University)	Various scales Russian 1935	26 maps and charts, 35 pages of description and tables.	Economy of Murmansk area
<i>Ekonomicheskaya Karta Kirovskoy Oblasti</i> (Economic Map of Kirovskaya Oblast')	Glavnoye Upravleniye Geodezii i Kartografii (Principal Administration of Geodesy and Cartography)	1:500,000 Russian 1939	Area is divided according to intensity of cultivation of grain and flax, or type of forest cover. Details are given of minerals, industries classified by value of product, rayon boundaries, towns classified by population and administrative function, roads, railroads, and inland waterways. Insets at 1:3,000,000 give additional data on geology, soils, climate, light industry, livestock, and culture.	Economy of Kirovskaya Oblast'.

(6) City plans (TABLE XIII-11)

Town plans are listed alphabetically, using Soviet names except for the Baltic States, where the local spellings have been preserved. The names of towns are cross-referenced to alternative forms, if town names have undergone recent change. Plans appearing in books as well as on individual sheet maps are included. Where several plans are given for one city, each plan supplies some pertinent data not found on the others. Plans copied from topographic

sheets without the incorporation of new information are omitted. In the selection of town plans, those in western European languages are given preference wherever practical.

Hydrographic features, roads, and railroads are shown on all maps. Additional features are noted for each plan. Since geographic coordinates are rarely shown they are mentioned specifically wherever they occur. Plane grids will also be noted if they enhance the value of a map.

Original

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TABLE XIII - 11

CITY PLANS

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Arkhangel'sk 64°30'N, 40°40'E				
a. Arkhangel'sk	Armee Karten Stelle (Army Map Depot) 464 January 1943	1:25,000 German	File copy AMS	Good detail of individual buildings, probably from aerial photos. Names of suburbs but no street names. Over 200 military objectives numbered but legend missing.
b. Plan Arkhangel'skogo porta (Plan of the Port of Arkhangel'sk)	Gidrograficheskoye Upravleniye (Hydrographic Administration) 1933	1:25,000 Russian	File copy HO	Depths of channels and cable crossings. Street names appear on insets (1:5,000 and 1:10,000) covering important port areas.
c. Stadtplan von Archangelsk mit Mil.-Geo.-Objekten (City Plan of Arkhangel'sk with Military-Geographic Objectives)	Generalstab des Heeres, Abteilung für Kriegskarten und Vermessungswesen (General Staff of the Army, Military Map and Survey Section) March 1942	1:13,300 German	File copy Map Branch CIA	94 military objectives and street names are given, with index of names and location by plane grid on the back. Vegetation, streetcar tracks, ship channels, and industries by type.
Astrakhan' 46°20'N, 48°E				
a. Stadtplan von Astrachan mit Mil. Geo. Objekten (City Plan of Astrakhan' with Military-Geographic Objectives)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen	1:16,500 German	File copy Map Branch CIA	56 military objectives and street names, with indexes based on plane grid. Inset: <i>Wolga-Mundungsgebiet</i> (Volga Delta), 1:250,000, locates Astrakhan' in relation to the mouth of the Volga.
b. Stadtplan Astrachan (City Plan of Astrakhan')	Druckereibatteri (Reproduction Company) 520 September 1942	1:16,500 German	File copy Map Branch CIA	Long list of military objectives named and indexed. Differs somewhat from preceding map. Streets named but not indexed. Map shows full coordinates for geographic grid based on Greenwich and military grid.
Borisov 54°14'N, 28°34'E				
a. Stadtplan von Borissow (City Plan of Borisov)	Reichsamt für Landesaufnahme (Reich Land Survey Office) March 1941	1:10,000 German	File copy Map Branch CIA	Street names indexed according to plane grid.
b. Plan G. Borisova B. S. S. R. (City Plan of Borisov, White Russian, SSR)	Belgosproyekt (White Russian State Plan) 1936	1:10,000 Russian	File copy AMS	Streets named but not indexed. Triangulation points, topography, vegetation, military grid. Railroad right-of-way is left blank. No buildings are shown. Detail taken from 1934-35 surveys.
Brest 52°05'N, 23°43'E				
Brzeze nad Bugiem (Brest)	Generalstab des Heeres, 9 Abteilung (General Staff of the Army, 9th Section) [ca. 1941]	1:20,000 German Polish	File copy AMS	Street names in Polish. A few military objectives added in German. Military grid, vegetation, spot elevations, through routes.
Cernăuți. See Chernovtsy.				
Chernigov 51°29'N, 31°19'E				
Stadtplan von Tschernigow (City Plan of Chernigov)	Ortskommandantur Tschernigow (Office of the Commander of Chernigov) September 1941	1:10,000 German Russian	File copy Map Branch CIA	Street names in Russian; principal streets and military objectives in both languages.
Chernovtsy 48°18'N, 25°56'E				
Stadtplan von Czernowitz (City Plan of Chernovtsy)	Reichsamt für Landesaufnahme March 1941	1:12,500 German	File copy Map Branch CIA	Copy of Rumanian map with streets and about 100 buildings named.
Chisinau. See Kishinev.				
Daugavpils 55°53'N, 26°32'E				
Stadtplan von Dünaburg (City Plan of Daugavpils)	Reichsamt für Landesaufnahme March 1941	1:15,000 German Latvian	File copy Map Branch CIA	Street named in Latvian and 22 buildings in German; both located by plane grid. Vegetation. Loss in reprinting of Latvian map more than compensated for by addition of building names in German.
Dnepropetrovsk 48°28'N, 35°02'E				
Stadtplan von Dnepropetrovsk (City Plan of Dnepropetrovsk)	Kriegskarten und Vermessungswesen Amt. Dnepropetrovsk (Military Map and Survey Office, Dnepropetrovsk) August 1943	1:20,000 German	File copy AMS	1934 Soviet surveys corrected by German air photos. Streets and public buildings named. Through streets, streetcar lines, contours, geographic coordinates. Destroyed buildings indicated in legend but not on map.

TABLE XIII - 11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Engel's 51°25'N, 46°10'E Stadtplanskizze von Engels (Sketch Map of Engel's)	Gen.-St. d. II., Abt. f. Kr.-Kart. u. Verm.-Wesen August 1941	1:20,000 German	File copy AMS	16 military objectives located, others named in the margin. Vegetation but no street names. Map is highly generalized.
Gomel' 52°25'N, 31°1'E Plan Goroda Gomelya (City Plan of Gomel')	Comité géologique, Leningrad, <i>Matériaux pour la Géologie Générale et Appliquée</i> , Vol. 63, 1927, Pl. VI	1:8,000 Russian	File copy AMS	Streets and a few buildings named.
Gor'kiy 56°15'N, 43°58'E Stadtplanskizze von Gorkij (Nishnij Nowgorod) mit Mil.-Geo.-Objekten (Sketch Map of Gor'kiy with Military-Geographic Objectives)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen November 1941	1:12,250 German	File copy Map Branch CIA	60 military objectives located; 28 additional listed but exact location unknown. Streets named; table of name changes. Rayon boundaries.
Grodno 53°40'N, 23°50'E a. Stadtplan von Grodno (City Plan of Grodno)	1937	1:10,000 German	File copy AMS	Main streets and important buildings named. Rayons, vegetation, topography. 1937 base information.
b. Verkehrsplan von Grodno (Transportation Map of Grodno)	Generalstab des Heeres, 9 Abteilung [ca. 1937]	1:10,000 German Polish	File copy AMS	Streets and important buildings named in Polish, streets located by plane grid. Through roads, vegetation, topography on 1937 base. Inset: <i>Stadtkern</i> (Center of City), 1:4,000.
c. Stadtplan von Grodno (Grodno City Plan of Grodno)	Reichsamt für Landesaufnahme March 1941	1:10,000 German	File copy Map Branch CIA	75 buildings named, streets indexed by plane grid. Based on 1937 Polish map, with vestiges of original spellings remaining.
Haapsalu 58°56'N, 23°32'E Stadtplan von Hapsal (City Plan of Haapsalu)	Reichsamt für Landesaufnahme April 1941	1:5,000 German	File copy Map Branch CIA	24 buildings named, streets indexed by plane grid.
Ivanovo 57°01'N, 40°59'E a. Stadtplan von Iwanowo (City Plan of Ivanovo)	1943	1:15,000 German	File copy Map Branch CIA	Based on air photos of January 1943. Vegetation shown, but no streets named.
b. Mil.-Geo.-Planskizze von Iwanowo (Military-Geographic Sketch Plan of Ivanovo)	Gen.-St. d. II., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1941	1:16,000 German	File copy Map Branch CIA	Major streets and 36 military objectives named. Vegetation shown. Map lacks much of the detail shown on <i>Stadtplan von Iwanowo</i> .
c. Plan g. Ivanovo (City Plan of Ivanovo)	Rabochiy Kray 1935	1:20,000 Russian	File copy AMS	Street names, topography
Jelgava 56°38'N, 23°43'E Stadtplan von Mitau (City Plan of Jelgava)	Reichsamt für Landesaufnahme March 1941	1:10,000 German Latvian	File copy Map Branch CIA	Streets named in Latvian and located by plane grid. Buildings named in German.
Kalinin 56°51'N, 35°57'E Plan g. Tveri (City Plan of Kalinin)	Goskartogeodeziy (State Administration of Cartography and Geodesy) ca. 1927	1:10,000 Russian	File copy AMS	Based on surveys of 1922-27. Street names, topography, military grid. No buildings shown. No legend.
Kaliningrad (Königsberg) 54°42'N, 20°31'E a. Town Plan of Königsberg, GSGS 4480	Great Britain, General Staff, Geographical Section 1944	1:15,000 English German	File copy Map Branch CIA	German map with English legend. Street and building names indexed by plane grid. Corner numbers, streetcar and bus lines, vegetation. Inset: Heart of city, 1:8,500.
b. Port of Königsberg	CIA No. 5413 December 1944	1:12,900 English	Distribution copies, CIA	Main street and buildings named. Emphasis on harbor installations, with corrections from aerial photographs. Insets: <i>Port of Pillau</i> (Baltiysk), 1:15,000; and <i>Königsberg and Pillau</i> , 1:31,000.
c. Königsberg Plan of Port and Town	Naval Staff, Intelligence Division October 1937	1:9,000 English	File copy Map Branch CIA	Streets named. Fuller industrial information than on two preceding maps. (Original at 1:8,500).

TABLE XIII - 11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Kaluga 54°30'N, 36°16'E Plan g. Kalugi (City Plan of Kaluga)	Kaluzhskiye Otdel Gorodskogo Kommunal'nogo Khozyaystva (Kaluga Division of City Administration) 1928	1:10,000 Russian	File copy AMS	From surveys of 1924-28. Streets named, blocks numbered. Map is incomplete.
Kandalaksha 67°12'N, 32°34'E Kandalakscha	Armee Karten Stelle 464 October 1943	1:10,000 German French	File copy AMS	39 military objectives and 4 streets named. German legend partly obscured by incomplete French legend. High-tension lines, topography, and detail of individual buildings from air photos.
Kaunas 54°53'N, 23°54'E Stadtplan von Kowno (City Plan of Kaunas)	Reichsamt für Landesaufnahme March 1941	1:15,000 German Lithuanian	File copy Map Branch CIA	Street names in Lithuanian located by plane grid; building names in German.
Kazan 55°48'N, 49°10'E Mil.-Geo.-Planskizze von Kasan (Military-Geographic Sketch Plan of Kazan')	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen October 1941	1:22,000 German	File copy AMS	Street names, detailed list of military objectives, vegetation.
Kem 64°59'N, 34°40'E Kem	Armee Karten Stelle 464 October 1943	1:10,000 German	File copy AMS	Military objectives located by plane grid. Major streets named; buildings shown in detail, probably from air photos.
Khar'kov 49°58'N, 36°11'E a. Stadtplan Charkow (City Plan of Khar'kov)	Kriegskarten und Vermessungswesen, Amt Charkow (Military Map and Survey, Khar'kov Office) August 1942	1:15,000 German	File copy AMS	Based on 1932 Ukrainian City Plan, corrected from air photos of 1941. Street names, thoroughway streets, and streetcar lines.
b. Mil.-Geo.-Plan von Charkow (Military-Geographic Plan of Khar'kov)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen September 1941	1:15,000 German	File copy Map Branch CIA	Large number of military objectives located by plane grid. Streets and buildings named.
Kherson 46°38'N, 32°36'E a. Mil.-Geo.-Plan von Chersson	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen November 1941	1:15,000 German	File copy Map Branch CIA	Military objectives and streets named.
b. Stadtplan von Cherson (City Plan of Kherson)	Reichsamt für Landesaufnahme March 1941	1:15,000 German	File copy Map Branch CIA	74 military objectives and streets named. Objectives lack the selectivity of the preceding map.
Kiev 50°28'N, 30°31'E a. Mil.-Geo.-Plan von Kiew (Military-Geographic Plan of Kiev)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	1:25,000 German	File copy Map Branch CIA	Detailed list of military objectives, streets named and located by plane grid.
b. Stadtplan Kiew (City Plan of Kiev)	Kriegs-Karten und Vermessungssamt Kiew (Military Map and Survey, Kiev Office) April 1943	1:25,000 German	File copy AMS	Street names, vegetation. Includes suburbs, with corrections from aerial surveys.
c. Stadtplan von Kiew (City Plan of Kiev)	Kr.-Kart. u. Verm.-Amt Warschau (Military Map and Survey, Warsaw Office) May 1942	1:25,000 German	File copy Map Branch CIA	Street names, streetcar and bus routes, rayons, thoroughway streets, hotels, and vegetation. Based on unpublished local map of 1941.
Kirov (Vyatka) 58°35'N, 49°42'E Stadtplanskizze von Kirow (Sketch Map of Kirov)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen	1:27,500 German	File copy Map Branch CIA	23 military objectives and main streets named. Topography.
Kirovograd (Kirovo) 48°31'N, 32°15'E Plan der Stadt Kirowograd (City Plan of Kirovograd)	..... 1941 or later	1:10,000 German	File copy AMS	Streets and buildings named.
Kirovsk 67°32'N, 33°39'E Kirovsk	Armee Oberkommando, Abteilung Ic November 1943	1:11,000 German	File copy AMS	25 buildings and 2 streets named. High-tension lines and detailed outline of individual buildings, probably from air photos.

~~Confidential~~

MAP APPRAISAL

TABLE XIII - 11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Kishinev (Chisinau) 47°02'N, 28°52'E Stadtplan von Kischinev (City Plan of Kishinev)	Reichsamt für Landesaufnahme November 1941	1:10,000 German	File copy Map Branch CIA	Over 60 buildings and streets named. Based on Rumanian map.
Klaipėda 55°42'N, 21°10'E Lageplan der Stadt Memel (City Plan of Klaipėda)	M. Gelzinis 1943	1:5,000 Lithuanian German	File copy AMS	Streets and public buildings named in both languages and located by plane grid. House numbers complete.
Kola 68°51'N, 33°08'E Kola	Armée Oberkommando, Abteilung Ic September 1943	1:10,000 German	File copy AMS	39 buildings named, with detail probably taken from aerial photographs. High-tension lines but no street names.
Königsberg. See Kaliningrad. Kostroma 57°46'N, 40°59'E Stadtplanskizze von Kostroma (Sketch Map of Kostroma)	Gen.-St. d. II., Abt. f. Kr.-Kart. u. Verm.-Wesen	1:10,500 German	File copy AMS	4 military objectives located and others listed without exact location. Streets named. Map generalized from material of 1931 or earlier.
Kremenchug 49°04'N, 33°29'E a. Stadtplan von Krementschug (City Plan of Kremenchug)	Kr. K. u. Verm. Amt. Charkow (Military Map and Survey, Khar'kov Office) November 1942	1:10,000 German Ukrainian	File copy AMS	24 industrial targets named in both languages. No street names. City limits shown.
b. Stadtplan Krementschug (City Plan of Kremenchug)	Verm. u. Kart. Abt. 633 (Map and Survey Section 633) November 1941	1:10,000 German	File copy Map Branch CIA	Many streets and several buildings named. Vegetation.
Krivoy Rog 47°56'N, 33°21'E Stadtplan Kriwoi Rog und Umgebung (City Plan of Krivoy Rog and Vicinity)	Kr.-Kart. u. Verm.-Amt Berditschew (Military Map and Survey, Berdichev Office) November 1943	1:15,000 German	File copy AMS	Streets and important buildings named and located by plane grid. Topography, vegetation.
Kursk 51°45'N, 36°09'E Gorod Kursk (City of Kursk)	Kurskaya Oblastnaya Planovaya Komissiya (Kurskaya Oblast' Planning Commission) 1935	No scale Russian	File copy Map Branch CIA	Streets named in downtown area. Industries classified in legend but not on map.
Kuybyshev 53°10'N, 50°10'E Mil.-Geo.-Planskizze von Kujbyschew (Military-Geographic Sketch Plan of Kuybyshev)	Gen.-St. d. II., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1941	1:17,500 German	File copy AMS	19 military objectives and streets named. Streetcar lines, vegetation
Leningrad 59°55'N, 30°20'E a. Mil.-Geo.-Plan von Leningrad (Military-Geographic Plan of Leningrad)	Gen.-St. d. II., Abt. f. Kr.-Kart. u. Verm.-Wesen April 1941	1:25,000 German	File copy Map Branch CIA	Street names in Russian, major street names transliterated. Plane-grid index covers main streets, buildings, and military objectives. Rayon boundaries are slightly in error. Copied from 1936 Soviet map, <i>Plan Leningrada</i> .
b. Plan Leningrada (City Plan of Leningrad)	Leningradskyy Oblispolkom i Leningradskyy Sovet (Leningrad District Executive Committee and Soviet) 1936	1:25,000 Russian	File copy Map Branch CIA	Streets and buildings named and located by plane grid. Bus, streetcar and local river boat routes, corner numbers, and rayon boundaries.
c. Plan des Leningrader Hafens (Plan of Leningrad Harbor)	Gen.-St. d. II., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	1:15,000 German	File copy Map Branch CIA	Streets and buildings of harbor area named. 1935 information.
Liepāja 56°30'N, 21°00'E a. Liepājas Plans (Plan of Liepāja)	P. Mantnieka Kartografijas Instituts (P. Mantnieks Cartographic Institute) 1935	1:20,000 Latvian	File copy Map Branch CIA	Streets and buildings named and indexed by plane grid. Corner numbers, vegetation, streetcar lines.
b. Stadtplan von Libau (City Plan of Liepāja)	Reichsamt für Landesaufnahme 1940	1:10,000 German Latvian	File copy Map Branch CIA	Streets named in Latvian and buildings in German. Both indexed by geographic coordinates. Detail is better on above map but this one contains later information.

Original

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TABLE XIII - 11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
L'vov 49°49'N, 24°02'E Stadtplan von Lemberg (City Plan of L'vov)	Reichsamt für Landesaufnahme March 1941	1:15,000 German Polish	File copy Map Branch CIA	252 buildings and streets named and located by plane grid. Topography shown. Map is essentially copy of Polish original.
Minsk 53°55'N, 27°35'E Plan der Stadt Minsk (City Plan of Minsk)	Armee Karten-M Stelle 533 (Army Map Depot 533) January 1942	1:10,000 German	File copy AMS	Streets, 107 military objectives, and 42 public buildings named and located by plane grid. Throughway streets, ghetto limits, parks, and destroyed parts of town shown.
Mogilëv 53°54'N, 30°20'E Plan Goroda Mogilëva (City Plan of Mogilëv)	1927	..... Russian	File copy AMS	Streets named.
Monchegorsk 67°55'N, 32°59'E Montschegorsk	Armee Karten Stelle 464 1943	1:12,500 German French	File copy AMS	Streets and 29 military objectives named and located by plane grid. Detailed building outlines, probably based on air photos.
Moscow 55°45'N, 37°36'E a. Moskau Atlas	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	1:83,000 German Russian	File copy Map Branch CIA	Atlas of 25 maps of Moscow, essentially a systematic military-target study reduced from <i>Mil.-Geo.-Plan von Moskau</i> , 1:25,000 and using the same plane grid. Indexed target tests in German, minor names in Russian.
b. Moskau Stand 1940	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	ca 1:65,000 German	File copy Map Branch CIA	Throughway streets named; 16 types of industries shown.
c. Moskau Verkehrsmittel (Transportation Map of Moskua)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	1:35,000 German Russian	File copy Map Branch CIA	Streetcar, bus, and subway routes with servicing facilities. Streets named in Russian. Inset of projected subway lines.
d. Mil.-Geo.-Plan von Moskau I (Military-Geographic Plan of Moscow I)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	1:25,000 German Russian	File copy Map Branch CIA	Hundreds of military objectives named in German and streets named mostly in Russian. Both located by plane grid. Throughway streets, rayon boundaries. Based on 1940 Soviet material.
e. <i>Atlas of Geological and Hydrological Maps of the City of Moscow</i>	Transactions of the All-Union Scientific Research Institute of Economic Mineralogy and of the Moscow Geological Hydrological and Geodetical Trust. 1935	1:25,000 Russian English	File copy Map Branch CIA	5 maps and geologic cross-sections of Moscow, unbound and all without coordinates. Geology, relief, and water table. Street names in Russian only.
f. Plan G. Moskvyy (City Plan of Moscow)	G. U. G. K. (Principal Administration of Geodesy and Cartography) 1940	1:20,000 Russian	File copy Map Branch CIA	Street and railroad names, corner numbers, vegetation. Index and most military objectives omitted.
g. Mil.-Geo.-Plan von Moskau II (Military-Geographic Plan of Moscow, II)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	1:10,000 German Russian	File copy Map Branch CIA	Enlarged version of <i>Mil.-Geo.-Plan von Moskau I</i> , 1:25,000. Same grid used for both maps and for <i>Moskau Atlas</i> .
h. Moskva	Fabrika Kartolitografiya Mosk. Obl. Kom. Otd. Moskva (Moscow Cartographic Plant) 1935	1:10,000 Russian	File copy AMS (18 out of about 42 sheets)	Streets and railroads named; street corners numbered. High-tension lines, vegetation, topography. Buildings divided into public, stone, and others, but not named. Based on official surveys of 1926-35.
i. Moskva	Fabrika Kartografiya Mosk. Obl. Kom. Otd. Moskva (Moscow Cartographic Plant) 1935-36	1:5,000 Russian	File copy AMS (46 out of about 140 sheets)	Streets and railroads named. Three types of roads, streetcar lines, topography, vegetation, and fences. Buildings classified as wood or stone, with number of floors of latter. Based on surveys of 1926-35.
Murmansk 68°50'N, 33°10'E Murmansk	Armee Karten Stelle 464 October 1943	1:10,000 German	File copy AMS	Shows 133 military objectives, street names, and destroyed sections of town. Revised from air photos.
Narva 59°22'N, 28°08'E a. Mil.-Geo.-Plan Narva (Military-Geographic Plan of Narva)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1941	1:10,000 German Estonian	File copy AMS	Street names in Estonian; 38 military objectives in German. Topography, property lines.
b. Stadtplan von Narva (City Plan of Narva)	Reichsamt für Landesaufnahme 1941	1:10,000 German Estonian	File copy Map Branch CIA	Streets named in Estonian and 100 buildings in German; both located by plane grid. Based on 1939 Estonian map.

TABLE XIII - 11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Nikolayev 46°58'N, 32°01'E Stadtplan von Nikolajew und Umgebung (City Plan of Nikolayev and Vicinity)	Reichsamt für Landesaufnahme March 1941	1:25,000 German	File copy Map Branch CIA	A few buildings but no streets named. Topography.
Nomme 59°23'N, 24°39'E a. Nomme, Linna Plaan (City Plan of Nomme) b. Stadtplan von Nomme (City Plan of Nomme)	J. Mannik ca. 1936 Reichsamt für Landesaufnahme April 1941	1:10,000 Estonian 1:10,000 German	File copy AMS File copy Map Branch CIA	Streets named and indexed by plane grid. Corner numbers, bus lines. Streets and buildings named, with latter indexed by plane grid. Based on 1937 Estonian map.
Novgorod 58°32'N, 31°18'E Plan goroda Novgorod (City Plan of Novgorod)	Otdel Voenno-Topograficheskaya Sluzhba, SFZ (Military Topographic Service of SFZ) ca. 1942	1:7,500 Russian	File copy Map Branch CIA	Streets named; individual buildings classified according to amount of destruction. Revised from aerial photographs and Soviet material to October 1941.
Odessa 46°27'N, 30°48'E Stadtplan von Odessa (City Plan of Odessa)	Reichsamt für Landesaufnahme March 1941	1:15,000 German	File copy Map Branch CIA	Streets and buildings named and indexed by plane grid. Topography.
Orël 52°56'N, 36°05'E Gorod Orël (City of Orël)	Kurskaya Oblastnaya Planovaya Komissiya (Kurskaya Oblast' Planning Commission) 1935	..... Russian	File copy Map Branch CIA	Streets named. In <i>Rayony Kurskoy Oblasti</i> (Rayons of Kurskaya Oblast') p. 60.
Pärnu 58°22'N, 24°30'E Stadtplan von Pernau (City Plan of Pärnu)	Reichsamt für Landesaufnahme March 1941	1:15,000 German Estonian	File copy Map Branch CIA	Streets and 30 buildings named in Estonian and German, all located by plane coordinates. Map based on 1932 Estonian city plan.
Pechenga 69°33'N, 31°12'E Petsamo, Linhamari, Plan of Port; GSGS 4437	Great Britain, Inter-Service Topographical Department 1943	1:6,800 English	File copy Map Branch CIA	Buildings named. Inset: <i>Trifona</i> , 1:27,000, with stub coordinates based on Greenwich.
Pinsk 52°07'N, 26°07'E Stadtplan von Pinsk (City Plan of Pinsk)	Reichsamt für Landesaufnahme April 1941	1:5,000 German	File copy AMS	Streets and public buildings named and located by plane grid. Vegetation. From 1929 Polish map.
Polotsk 55°29'N, 28°48'E Stadtplan von Polozk (City Plan of Polotsk)	Kartenstelle II, Abt. 10 (Map Depot II, Section 10)	1:10,000 German	File copy AMS	35 buildings but no streets named. Vegetation, topography. Corrected from air photos.
Poltava 49°36'N, 34°35'E Poltawa	Kr. Kart. u. Verm.-Amt, Kiev (Military Map and Land Survey Section, Kiev) September 1942	1:20,000 German	File copy AMS	Main streets and buildings named.
Proskurov 49°29'N, 26°58'E Proskurov	.....	1:10,000 German	File copy Map Branch CIA	Streets and buildings named. Map unfinished.
Pskov 57°48'N, 28°19'E Mil.-Geo.-Plan von Pskow (Military-Geographic Plan of Pskov)	Gen.-St. d. II., Abt. f. Kr.-Kart. u. Verm.-Wesen 1941	1:25,000 German	File copy Map Branch CIA	Major streets and military objectives named. Base material from USSR 1:50,000 map.
Rechitsa 52°21'N, 30°25'E Plan g. Rechitsy (City Plan of Rechitsa)	Belgosproyekt (White State Plan) 1935-36	Russian Russian	File copy AMS	Streets named and a few buildings located: Vegetation, topography. Excellent detail but map appears to be unfinished. In 10 sheets.
Reval. See Tallinn.				

TABLE XIII -11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Riga 56°58'N, 24°05'E				
a. Rīgas Plāns (City Plan of Riga)	Spiestuve Valstsparpiru 1933	1:25,000 Latvian	File copy AMS	Streets and buildings named. U. S. Legation. Corner numbers, building zones, and streetcar lines. Inset: <i>Vecpilsēta</i> , 1:10,000.
b. Stadtplan von Riga (City Plan of Riga)	Reichsamt für Landesaufnahme March 1941	1:25,000 German Latvian	File copy Map Branch CIA	Streets named in Latvian and 118 buildings in German; both located by plane grid. Corner numbers, through routes, vegetation, streetcar lines. Inset of center of town.
c. Mil.-Geo.-Plan von Riga (Military Geographic Plan of Riga)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1941	1:25,000 German Latvian	File copy AMS	Streets named in Latvian, 250 military objectives listed in German. Corner numbers, vegetation, streetcar lines. Inset of center of town.
d. Rīgas Ostas Centrālā Dala (The Central Section of the Port of Riga)	A. Ošiņš & P. Mantnieks Kartogrāfijas Instituts, Riga ca. 1930	1:15,000 English Latvian	File copy AMS	Street names in Latvian. Good detail of harbor and installations.
e. Riga	A. Ošiņš & P. Mantnieks Kartogrāfijas Instituts, Riga. ca. 1930	1:25,000 English Latvian	File copy AMS	Street names in Latvian. Important buildings named in English also. Detail of entire harbor, with emphasis on navigation facilities.
Romny 50°46'N, 33°31'E				
Plan Mista Romen (City Plan of Romny)	.....	1:4,200 Ukrainian	File copy AMS	Streets named Unfinished manuscript map of World War II.
Rostov-na-Donu 47°12'N, 39°42'E				
a. Rostov (Rostov)	.....	No scale Russian	File copy AMS	Streets and important buildings named. Vegetation. Unfinished World War II map in 6 sheets.
b. Mil.-Geo.-Plankizze von Rostow am Don (Military-Geographic Sketch Plan of Rostov-on-the-Don)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen August 1941	1:15,000 German	File copy Map Branch CIA	Streets and many military objectives named. From 1934 Soviet map, highly generalized.
Rybinsk. See Shcherbakov.				
Saratov 51°30'N, 45°55'E				
a. Mil.-Geo.-Plan von Saratow (Military-Geographic Plan of Saratov)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen August 1941	1:10,000 German	File copy AMS	Military objectives and streets named. Streetcar lines, vegetation. From 1926 city plan.
b. Stadtplan von Saratow (City Plan of Saratov)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen February 1942	1:20,000 German Russian	File copy AMS	Streets named in Russian, 100 military objectives in German. Streetcar lines, vegetation, topography. From 1935 Soviet map. Lacks detail for center of town shown on preceding map.
Sevastopol' 44°35'N, 33°32'E				
Stadtplan von Sewastopol (City Plan of Sevastopol')	Reichsamt für Landesaufnahme April 1941	1:10,000 German	File copy Map Branch CIA	Streets and buildings named.
Shcherbakov (Rybinsk) 58°01'N, 38°41'E Rybinsk	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1942	1:25,000 German	File copy AMS	Military objectives and individual buildings, but no street names. Base information undated but later than completion of Rybinsk reservoir.
Simferopol' 44°57'N, 34°04'E				
Stadtplan Simferopol (City Plan of Simferopol')	Karten Batterie (Map Division) 613 March 1943	1:10,000 German	File copy AMS	Streets named and indexed by plane grid. Vegetation.
Smolensk 54°45'N, 32°01'E				
Plan Goroda Smolenska' (City Plan of Smolensk)	Comité Géologique, Leningrad, <i>Matériaux pour la Géologie Générale et Appliquée</i> , Vol. 63, 1927, Plate II	1:20,000 Russian	File copy AMS	Streets and more important buildings named. Topography, vegetation.
Sovetsk (Tilsit) 55°03'N, 21°54'E				
Pharus-Plan Tilsit	Pharus-Verlag No date	1:16,000 German	File copy Map Branch CIA	Street names and corner numbers.
Stalingrad 48°40'N, 44°30'E				
Plan of Stalingrad Industrial Region	Stalingrad newspaper, <i>Bor'ba</i> ca. 1926	1:20,000 English Russian	File copy AMS	Streets named in Russian, buildings in English. Streetcar lines, topography, high-tension lines.

TABLE XIII - 11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Stalino 47°59'N, 37°48'E Stadtplan Stalino (City Plan of Stalino)	January 1943	1:20,000 German	File copy AMS	Street names, rayon boundaries, topography, power lines, public buildings, streetcar lines, and mines.
Stanislav' (Stanislawow) 48°54'N, 24°44'E Stadtplan von Stanislau (City Plan of Stanislav')	Reichsamt für Landesaufnahme March 1941	1:10,000 German	File copy Map Branch CIA	Streets and 125 buildings named and indexed by plane grid. District boundaries. Inset of center of city, 1:5,000.
Taganrog 47°12'N, 38°57'E Stadtplanskizze von Taganrog (Sketch map of Taganrog)	Vermessungs und Kartenabteilung (Survey and Mapping Unit) 602 No date	1:15,000 German	File copy Map Branch CIA	Streets and 65 buildings named. Based in part on air photos of October 1941.
Tallinn 59°26'N, 24°46'E a. Mil.-Geo. Plan von Reval (Military-Geographic Plan of Tallinn) b. Stadtplan von Reval (City Plan of Tallinn) c. Tallinna, Linna Plan (City Plan of Tallinn) d. [Title missing]	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1941 Reichsamt für Landesaufnahme March 1941 J. Männik & E. Linholm 1934 ca. 1920	1:12,500 German 1:2,500 German Estonian 1:15,000 Estonian 1:2,000 Estonian	File copy AMS File copy Map Branch CIA File copy AMS File copy AMS (5 out of 14 sheets)	Streets and 85 military objectives named. Vegetation based largely on 1939 Estonian map. Streets and important buildings named in Estonian; both indexed and located by plane grid. Vegetation. Based on 1939 Estonian map. Streets and important buildings named, indexed, and located by plane grid. Projected streets, streetcar lines. Inset of center of town. More detail than two preceding German maps but less recent. Streets and important buildings named. Corner numbers. Detailed but probably printed during 1920's.
Tambov 52°45'N, 42°30'E Stadtplan von Tambov (City Plan of Tambov)	ca. 1942	1:15,000 German	File copy Map Branch CIA	Individual buildings and other information from air base photos of October and November 1942, but only one name appears on the map.
Tartu 58°24'N, 26°48'E a. Mil.-Geo.-Plan von Dorpat (Military-Geographic Plan of Tartu) b. Stadtplan von Dorpat (City Plan of Tartu) c. Tartu Linna Plaan (City Plan of Tartu)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1941 Reichsamt für Landesaufnahme March 1941 J. Linzbach No date	1:7,500 German 1:7,500 German Estonian No scale Estonian	File copy AMS File copy Map Branch CIA File copy Library of Congress	26 military objectives and streets named, indexed, and located by plane grid. Vegetation. Streets named in Estonian and 80 buildings in German; both indexed and located by plane grid. Based on 1937 Estonian map. Streets named and listed on reverse side, corner numbers, names of buildings, 4 quarters of town. Does not cover as much area as the two preceding German maps, and information is assumed to be older.
Tilsit. See Sovetsk. Tula 54°12'N, 37°39'E a. Tula b. Plan Goroda Tuly i Prilegayushchikh k Nemy Zemel' (City Plan of Tula, with Surrounding Area)	1942 Zemel'no-Planirovnoye Upravleniye Tul'skogo Gorodskogo, Kommuna Phyye Otdel (Tula Municipal Planning and Administration Division) 1933	1:25,000 German 1:15,000 Russian	File copy Map Branch CIA File copy Map Branch CIA	Unfinished German military map, compiled June 1942. Excellent detail. Legend omitted but symbols are similar to those appearing on many other German city plans of same year. Place names omitted. Street names, block numbers. Less detail than on the more recent German map above.
Uman' 48°44'N, 30°12'E Uman		1:10,000 German	File copy AMS	Streets and a few buildings named. Probably a World War II German Army map.
Uzhgorod 48°38'N, 22°19'E Uzhorod (inset on), Podrobný Přehled Politického Rozdělení Země Slovenské a Podkarpatoruské (Detailed Survey of the Political Divisions of Slovakia and Ruthenia)	Vojenský Zeměpisný Ustar (Military Geographical Institute) 1936	1:12,300 Czech	File copy Map Branch CIA	Streets and important public buildings named.

TABLE XIII - 11 (Continued)

Town name, location and title	Publisher and date	Scale and language	Availability	Description
Ventspils 57°24'N, 21°36'E Ventspils	A. Ošins & P. Mantnieks Kartografijas Instituts, Riga ca. 1930	1:20,000 English Latvian	File copy AMS	14 buildings named in English and Latvian; a few streets named in Latvian. Harbor details, with explanations and legend in both languages.
Vil'nyus 54°41'N, 25°17'E a. Wilno Plan Miasta (City Plan of Vil'nyus)	Polish General Staff, War Office, London GSGS 4435 1943	1:15,000 Polish	File copy AMS	Streets and 166 buildings named, indexed, and located by plane grid. Vegetation and topography.
b. Stadtplan Wilna und Umgebung (City Plan of Vil'nyus and Vicinity)	Reichsamt für Landesaufnahme March 1941	1:15,000 German Polish	File copy Map Branch CIA	Streets named in Polish and 66 buildings in German; both indexed and located by plane grid. Legend and abbreviation table in German and Polish. Stub coordinates based on Greenwich. From Polish city plan.
Vinnitsa 49°12'N, 28°31'E Stadtplan Winniza (City Plan of Vinnitsa)	Kriegskarten und Vermessungswesen Amt, Winniza (Vinnitsa Map and Survey Office) August 1943	1:10,000 German	File copy AMS	Streets named, indexed, and located by plane grid. Buildings named. Contours at 5-meter intervals, vegetation, city limits. From 1932 Soviet city plan, with recent corrections from local German map and survey office.
Vitebsk 55°11'N, 30°11'E Stadtplan von Vitebsk (City Plan of Vitebsk)	Reichsamt für Landesaufnahme March 1941	1:7,500 German	File copy Map Branch CIA	Streets and 132 buildings named.
Vladimir 56°08'N, 40°22'E Mil.-Geo.-Planskizze von Wladimir (Military-Geographic Sketch Map of Vladimir)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen July 1941	1:20,000 German	File copy AMS	Main streets and buildings named. Essentially a copy of 1928 Soviet city plan, with improvements in cartographic presentation.
Vologda 59°11'N, 39°51'E Stadtplan von Vologda (City Plan of Vologda)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen August 1941	1:15,500 German	File copy Map Branch CIA	22 military objectives located, and 6 of the main streets named.
Voronezh 51°40'N, 39°10'E	Voronezhskiy Gorsovet, Kommunal'nyye Otdel (Voronezh City Soviet, Municipal Division) 1931	No scale Russian	File copy Map Branch CIA (2 out of a probable 6 sheets)	Streets named within city but not in suburbs. Vegetation and topography.
Vyatka. See Kirov. Vyborg (Viipuri) 60°44'N, 28°42'E Karta öfver Wiborgs Stad och omgifningar (Map of the City of Vyborg and Vicinity)	Wiborgs Bak & Stentrycker i Aktiebalag 1913	1:6,000 Swedish Finnish	File copy AMS	Streets and important buildings named. City subdivision limits, property lines and numbers of each holding, and building numbers.
Yaroslavl' 57°38'N, 39°53'E Stadtplanskizze von Jaroslawl mit Mil.-Geo.-Objekten (Sketch Map of Yaroslavl' with Military-Geographic Objectives)	Gen.-St. d. H., Abt. f. Kr.-Kart. u. Verm.-Wesen December 1941	1:10,000 German	File copy Map Branch CIA	Important street names, with table of changes under Soviet regime. Military targets noted.
Yefremov 53°08'N, 38°05'E Umgebung Jefremow (Yefremow and Vicinity)	Vermessungs und Kartenabteilung (Survey and Mapping Unit) 620 November 1941	1:15,000 German	File copy Map Branch CIA	15 public buildings but no streets named. Built-up areas incompletely shown. Topography, vegetation.
Zaporozh'ye 47°45'N, 35°11'E Stadtplan Saporoshje (City Plan of Zaporozh'ye)	Armee Karten Stelle 521	1:10,000 German	File copy AMS	Most streets named, public buildings numbered. Streetcar lines. Legend missing.

E. General atlases

This section is a discussion of national and regional atlases of either a general or a statistical nature, and of comprehensive German military studies, which are essentially regional atlases (TABLE XIII-12). An atlas whose major contribution is on a special subject is considered with the maps on that subject.

Several national atlases warrant special attention. *The Bol'shoy Sovetskiy Atlas Mira* is the major work of this type and the most important single source for maps of the USSR within its pre-1939 boundaries. The *Atlas Republiki Čechoslovenské* and the *Latvijas Statistiskās Atlas* also represent important contributions in the field of cartography. The older *Atlas of Finland* is still of considerable value. The *Atlyas Ukrayini* likewise shows cartographic skill of a high quality although produced by a staff in exile. Only minor portions of the Czechoslovak and the Finnish atlases cover areas now incorporated into the Soviet Union but such atlases present important information not readily available elsewhere.

(1) *Bol'shoy Sovetskiy Atlas Mira, Tom I i II (Great Soviet Atlas of the World, Volumes I and II), 1937-39*

The Great Soviet Atlas of the World was published in accord with the Decree of 17 December 1933 of the Central Executive Committee of the All-Union Communist Party (Bolsheviks) and the Soviet of People's Commissars. It was to consist of three volumes: Volume I—world coverage and small-scale synoptic maps of the USSR; Volume II—survey and economic maps of the Republics, Krays, and Oblasts of the USSR; Volume III (not yet published)—survey, physical, administrative, and economic maps of continents and foreign countries.

A special institute was created to undertake the task of publication; Nauchno-izdatel'skiy Institut Bol'shogo Sovetskogo Atlassa Mira pri Tsik SSSR (Scientific-Publishing Institute attached to the Central Executive Committee [of the All-Union Communist Party-Bolsheviks], USSR). Volume II was compiled by the Nauchno-Redaktsionnaya Kartosotavitel'skaya Chast', Glavnoye Upravleniye Geodezii i Kartografii pri SNK SSSR (Scientific-Editorial Map Compilation Section, Principal Administration of Geodesy and Cartography attached to the Soviet of People's Commissars, USSR).

Volume I, in two parts, was published in 1937. It is less detailed and of earlier date than Volume II (1939). Part I includes physical, economic, and sociological maps of the world. Part II consists of 96 colored maps of the physical geography, geology, climate, soils, mineral resources, vegetation, zoogeography, commercial hunting, power, manufacturing (heavy and light), agriculture, animal husbandry, collectivization, transportation, and foreign trade of the USSR as a whole.

In spite of the wide range of subjects and large number of maps, serious gaps are noticeable. There are no maps on the density or ethnic composition of the people; the climatic map series is incomplete; and maps on several important aspects of agriculture are lacking. Quantitative data are limited almost entirely to productivity measured in rubles. The value of Volume I lies in its comprehensive scope and generalized presentation of economic and physical data. In 1940, a 180-page gazetteer to Volume I was published, which gives the location of all places mentioned in Parts I and 2 of the volume. Size of Soviet

cities with populations above 50,000 are given, as well as statistics on physical character of the USSR. This is the only atlas gazetteer that has been published to date, but it does not include places mentioned in Volume II. An English translation of the titles and legends of maps appearing in Volume I, made under the direction of George B. Cressey, was planographed by Edwards Brothers, Inc., Ann Arbor, Michigan, 1940.

Volume II of the *Great Soviet Atlas of the World* was published in September 1939. It consists of: 1) physical and, 2) economic maps of the USSR by administrative areas. The maps of both series have full geographic grids based on Greenwich, usually at 1-degree intervals.

(a) *Physical maps.*—Terrain is carefully presented by contours and layer tints, with the contour intervals selected for each plate to bring out the most significant terrain features of the area covered. A relatively dense pattern of spot heights is given. Terrain features are named and, in some cases, unusual features such as precipices are shown by symbol. The drainage pattern, including the courses of intermittent streams, is detailed and carefully drawn. Fresh and saline lakes are differentiated, and water depth is shown by isobaths, layer tints, and spot depths.

On all the physical maps, railroads are classified as trunk, electrified, and other lines, and lines under construction. Roads are divided into highways, dirt roads, and trails. No differentiation is made between crude oil and kerosene pipe lines. Water transportation features include shipping routes, ports, landings, and navigable canals. Reclamation canals also are shown. All administrative centers are located and populated places are classified according to seven population categories. Administrative boundaries include Union Republics; Autonomous Republics, Krays, and Oblasts; Autonomous Oblasts; and Administrative Okrugs.

In spite of some deficiencies, the physical maps are a valuable source of information, since they show a remarkable amount of detail in relation to the scale. Probably no other maps, with the exception of the large-scale topographic sets, give as large a number of place names. No gazetteer to Volume II has been published or as yet planned by the Soviets. The physical maps must be used with great care. Their consistently neat and technically-advanced appearance implies uniformly high reliability. At the time of their compilation, however, Soviet topographic surveying was far from complete and was not of uniform quality. Furthermore, it is difficult to compare maps of different areas because they are not at the same scale.

(b) *Economic maps.*—The economic maps in Volume II usually face or follow the corresponding physical maps. The two maps for a given area are at the same or nearly the same scale to facilitate comparison.

The economic maps show a large variety of minerals and mineral springs by symbol as well as reserves of gas, coal and petroleum. Additional data on coal and petroleum deposits in exploitation and in reserve, and on areas undergoing exploration, are sometimes shown.

Power stations with capacities of 100 kw. or more are shown by proportionate symbols and the source of power is identified. If stations are undergoing expansion or are under construction, their status is indicated. Distinction is made between central power stations generating for general distribution and other stations.

A large number of manufacturing centers whose annual production amounts to 100,000 *rubles* or more (1926/27 price index) are shown by symbols proportionate in size to the production (1935). Bar graphs and pie charts give comparative data for 1913 and 1937 for selected products.

The maps in Volume II of the *Great Soviet Atlas of the World* are the only recent Soviet maps that show land use. Cropland, sand areas, marshes, pastures (summer, winter, and alpine) and wasteland are outlined. Comparative bar graphs give the areas under selected crops for 1913 and 1937. Areas of stockbreeding are indicated and transhumance is shown by routes of movement.

State farms (*sovkhozy*) are identified by type of farming. Motor-tractor stations are located, and some of the maps have comparative bar graphs showing the increase in the amount of horsepower on farms between 1913 and 1937.

Fishing grounds for commercial species are located, as well as fishing ports, with their catch shown by proportionate circles.

In order to emphasize Soviet achievement in the expansion of transportation, all railroads and some canals and oil pipe lines are classified as constructed before or after the Revolution. In other respects, the presentation of railroads, as well as highways, resembles that on the physical maps. Maritime shipping routes are shown with distances between ports given in kilometers. Air lines are indicated as regular, seasonal, and nonperiodic.

Although the base maps for the economic series have a relatively complete drainage pattern of important streams and their principal tributaries, it is less detailed than on the physical maps. Populated places have been selected to include all centers with notable industrial production, state farms, machine-tractor stations, and the more important villages in areas of sparse population.

The data included in Volume II of the *Great Soviet Atlas of the World* are for 1935, with some additional statistics for 1937 and 1938. The large number and variety of items shown on the maps in relatively great detail has been achieved by excellence of design and high quality of technical reproduction. Nevertheless, the large variety of data and the details of distribution for the more important economic regions of the USSR, makes some of the maps cluttered and difficult to read. Many of the symbols overlap each other, and the distinctiveness of some symbols is dependent upon small dot or line differences that are barely legible. As a result the general patterns of distribution of economic elements become almost or totally imperceptible on some of the more complex maps.

In spite of the large amount of data shown, much information is deliberately omitted or masked. For some time

it has been known that the Soviet Union has deliberately restricted the dissemination of information about its resources and productive facilities. Furthermore, nearly all industrial and agricultural production statistics are given in *rubles*. This is adequate for such industries as the chemicals and machine construction, whose diverse production is best expressed in terms of value. It is practically meaningless, however, for such industries as steel production and mining. In all cases, interpretation is difficult because of the complexity of the Soviet price structure. The use of proportionate circles for the total production of multiple-industry centers makes it difficult to estimate production by individual industries.

Among the major purposes for which the *Great Soviet Atlas of the World* was published were the propagandizing of socialism in the USSR and the demonstration of the superiority of socialist economy over capitalist economy. Consequently, the Atlas does not present an objectively balanced picture of Soviet economy. In comparison with manufacturing, agriculture is greatly under-emphasized, whereas the value of industrial production is given for all centers whose manufactures are valued at 100,000 *rubles* or more per year, no comparable agricultural statistics are given. The advancement of agriculture is shown by the increase in area under the cultivation of selected crops rather than by increase in crop production. A study of economic interrelations between manufacturing and agriculture is, therefore, impossible.

The selection of economic information for presentation appears to be arbitrary and is confusing to anyone using the Atlas. Quantitative data concerning livestock, for example, are entirely lacking, probably because such statistics would reflect losses incurred during the period of collectivization.

In spite of these criticisms and although much of the information is already out of date, the economic maps in Volume II of the Atlas serve as an excellent reference source on the location of mineral deposits, production centers, and land use.

(2) *Militargeographische Angaben über das Europäische Russland.* (*Military-Geographical Studies of European USSR*)

The *Mil-Geo* (*Militärgeographische*) series for European USSR, Finland, and Rumania presents a wealth of information. (For details, see 131, A, (2), (C) 2.) These volumes were assembled by a large staff of German geographers for the use of the German Army in its drive eastward, and consist of brief and concise texts, booklets of photographs, maps (including city plans) and gazetteers.

TABLE XIII - 12
 GENERAL ATLASES

Title	Publisher	Language and date	Description
Atlas Leningradskoy Oblasti i Karelskoy ASSR (Atlas of Leningradskaya Oblast' and the Karelian ASSR)	Geografo-Ekonomicheskii Nauchno-Issledovatel'skiy Institut Leningradskogo Gosudarstvennogo Universiteta (Economic Geography Research Institute of the Leningrad State University)	Russian English Finnish 1934	65 unbound sheets. Physical, economic, and cultural maps at 1:1,000,000 for Leningradskaya Oblast' and at 1:2,000,000 for Karelian ASSR. Atlas includes maps of administrative districts showing rayons, soil, ethnic structure, and distribution of cultural centers. Use of English and Finnish is limited almost entirely to map titles.
Atlas Moskovskoy Oblasti (Atlas of the Moskovskaya Oblast')	Moskovskaya Oblastnaya Planovaya Kommissiya, Nauchno Issledovatel'skiy Ekonomiki (Moskovskaya Oblast' Planning Commission, Economic Research)	Russian 1933	67 pages of maps and 36-page explanatory text. Maps at 1:500,000 for the entire oblast and at larger scales for its parts show rayon boundaries, and physical, economic, population, and cultural features.

TABLE XIII - 12 (Continued)

Title	Publisher	Language and date	Description
Atlas of Finland	Suomen Maantieteellinen Seura (The Geographical Society of Finland), Helsinki	English Swedish Finnish 1925-29	Atlas issued as a single edition with all explanations in 3 languages. Separate texts are issued for each language; the English text constitutes Vol. 48 of <i>Fennia</i> . Atlas contains 38 double pages of maps, and 320-page text. Covers physical, economic, and social features of Finland based largely on 1925 statistics. Other significant maps included give: streams used for floating logs, 1:3,000,000; rapids, including potential power sites, 1:3,000,000; and 7 detailed studies of geographic regions of Finland.
Atlas Republiky Československé (Atlas of the Czechoslovak Republic)	Česká Akademie Věd a Umění (Bohemian Academy of Sciences and Arts), Prague	Czech French 1935 English text 1936	55 double pages of maps and 35-page text. Maps with scales ranging from 1:1,250,000 to 1:5,000,000, cover a large selection of special subjects, each with considerable distributional detail. Geographic coordinates have been omitted from most of the small-scale maps.
Atlasy Ukrayini y Smezhnykh Krayiv (Atlas of Ukraine and Adjoining Countries)	Ukrayins'kiy Vidavnychiy Institut, (Ukrainian Publishing Institute), L'wów	Ukrainian English 1937	63 double pages of maps and 42-page text edited by the Volodimir Kubyiovich. Most maps are at 1:5,000,000. Physical, economic, and cultural maps are limited largely to the area from Warsaw to Grozny. Some information on Ukrainian migration to other areas. Population and agricultural maps comprise the bulk of the atlas. Ten maps selected from this atlas were published in German translation in the unbound <i>Atlas der Ukraine und benachbarten Gebiete</i> , edited by O. Kossmann, Berlin, 1943.
Bol'shoy Sovetskiy Atlas Mira (Great Soviet World Atlas)	Nauchno Izdatel'skiy Institut Bol'shogo Sovetskogo Atlasa Mira (Scientific-Editorial Institute of the Great Soviet World Atlas) and Glavnoye Upravleniye Geodezii i Kartografii (Principal Administration of Geodesy and Cartography)	Russian 1937-39	Vol. 1, Part 1, contains world coverage of no significance to this study. Part 2 has 85 colored plates of physical and economic maps of the USSR, including many of European USSR at 1:7,500,000. The 180-page gazetteer to Vol. 1 includes population and area statistics to 1940. Vol. 2 is composed of 125 colored plates giving detailed general and economic coverage of the USSR by regions. The more highly developed portion of European USSR is shown at the scale of 1:1,500,000, with a number of larger-scale city and vicinity insets. This atlas was produced for internal planning coincident with the Third Five-Year Plan as well as "to impress the capitalist world with the superiority of Communist achievement in the field of cartography." The most conspicuous omissions are maps of ethnography and minor administrative divisions. Scant attention given to western annexations, which were not completed at the time of publication. Production figures are based chiefly on ruble values, which makes actual quantitative production difficult to determine but does permit rapid comparison of the output of different types of industries. An English translation of the titles and legends of Vol. 1, made under the direction of George B. Cressey, was planographed by Edwards Brothers, Inc., Ann Arbor, Michigan, 1940.
Latvijas Statistikas Atlāss (Statistical Atlas of Latvia)	Valsts Statistika Pārvalde (State Statistical Bureau), Riga	Latvian French 1938	63 pages of maps and graphs and a 59-page text, mainly in Latvian, cover various aspects of Latvian life. Population, agriculture, industry, and commerce receive most attention.
Militärgeographische Angaben über das Europäische Russland (Military-Geographic Plans of European USSR)	Generalstab des Heeres, Abteilung für Kriegskarten und Vermessungswesen (General Staff of the Army, Military Mapping and Surveying Section), Berlin	German 1941-42	13 volumes each with descriptive text (which includes small-scale maps), photographic supplement, and several unbound maps, cover European USSR as of 1941. These studies, prepared for the German invasion of the USSR, emphasize trafficability and military targets. Maps of nationalities and minor civil divisions are given for a few regions. The large number of city plans include a 25-map atlas of Moscow.
Militärgeographische Angaben über Finnland (Military-Geographic Plans of Finland)	Generalstab des Heeres, Abteilung für Kriegskarten und Vermessungswesen, Berlin	German 1941	This report includes a descriptive text illustrated by small-scale maps, photographic supplement, place-name gazetteer, thoroughway town plans, standard plans for the largest towns, a set of 12 road maps with minor civil division boundaries, and 11 additional unbound maps on land use, population, trafficability, and industry for Finland in 1940. Boundaries given are for both before and after 29 April 1940; full information is given for the ceded areas.

TABLE XIII - 12 (Continued)

Title	Publisher	Language and date	Description
Militärgeographische Beschreibung von Rumänien (Military-Geographic Description of Rumania)	Generalstab des Heeres, Abteilung für Kreiskarten und Vermessungswesen, Berlin	German 1940	Text, thoroughway town plans, photographic supplement, and unbound maps of administrative divisions, geographic regions, economy, transportation, telecommunications, and peoples show conditions in Rumania immediately prior to the Soviet annexation of Bessarabia in 1940. One of the general maps carries the new Soviet boundary of 30 August 1940.
Ostland-Atlas	Reichskommissar für das Ostland (Reichs Commissioner for the Eastern Area), Riga	German 1942	48 folded maps give internal boundaries, population, economy, and transportation on a 1:1,500,000 base showing republic boundaries, hydrographic features, towns, and railroads. 12 additional maps—mainly on climate, vegetation, and history—were planned but not published. On most of the maps the information is complete for the three Baltic States and White Russia; the physical and some of the transportation maps include surrounding areas. The maps on geology and navigable waterways have especially good detail. 166-page statistical supplement.
Rayony Kurskoy Oblasti, Kartograficheskiy Material (The Rayons of Kurskaya Oblast', Cartographic Material)	Kurskaya Oblastnaya Planovaya Komissiya (Kurskaya Oblast' Planning Commission), Kursk	Russian 1935	92 maps at 1:200,000 of individual rayons (meridian Pulkovo) show village soviets, collective farms, chief tractor stations, ravines, and transportation. Two city plans (no coordinates) and administrative map of entire oblast (Meridian Greenwich) are included.
Rzeczpospolita Polska Atlas Statystyczny (Statistical Atlas of the Polish Republic)	Główny Urząd Statystyczny Rzeczpospolitej Polskiej (Central Statistical Office of the Polish Republic), Warsaw	Polish 1930	The volume, published to commemorate the 10th anniversary of the restoration of Poland, includes 42 plates of maps and graphs illustrating statistical tables of the Polish Statistical Office. Only a few of the largest-scale maps have geographic coordinates. A dot map at 1:2,000,000 shows distribution of population and minor political divisions, but recent migrations have altered the situation.
Statistical Atlas of Poland	The Polish Ministry of Information, London	English 1942 or later	Social and economic statistics for Poland between the two Great Wars are clearly illustrated by maps and graphs, which with explanations cover 120 pages. Maps are at 1:4,000,000 or smaller scales; all but one lack coordinates. Statistics are given by <i>voivodship</i> (province), but two population maps are based on <i>powiaty</i> (districts).
Statistiline Album (Statistical Atlas)	Riiga Statistika Keskburoo (Central Bureau of National Statistics), Tallinn	Estonian French 1925-28	Vol. I covers territory and population of Estonia in 36 plates, including a hydrographic map at 1:1,200,000 which indicates navigable rivers and streams used for floating logs. Vol. 2 consists of 24 plates covering Estonian economy. Vol. 3 has 112 pages on agriculture, with many text illustrations and graphs. Map of composition of soils, 1:1,200,000, is noteworthy. In all three volumes, geographic coordinates have been omitted from most of the maps. Statistics are frequently presented on the basis of minor administrative divisions.

132. PRINCIPAL SOURCES

A. General

Detailed cartographic information, both technical and historical, may be obtained through an examination of the following publications available at the Army Map Service. Most of the titles and articles are translations from the Russian; others are translations made from German translations of the USSR originals.

B. List of references

(1) Instructions for mapping

- CONSTRUCTION OF CONTOURS ON INTERMEDIATE-SCALE, 1:420,000 (1:500,000) MAPS. Pp. 16-40.
- Gerasimov, A. P., Kassin, N. G., and Nevskiy, A. A. INSTRUCTIONS ON COMPILING GEOLOGIC-ECONOMIC MAP. Order #247 issued by Head of the Chief Geological Research Administration. 1931.

- USSR, Chief Administration of Geodesy and Cartography (G.U.G.K.). INSTRUCTIONS FOR CONSOLIDATION OF CARTOGRAPHIC, SURVEYING, AND GEODETIC DATA FOR UNION-WIDE REQUIREMENTS. 1938.
- INSTRUCTIONS FOR TOPOGRAPHIC WORK, PLANE TABLE SURVEY, SCALE 1:25,000. 1939.
- INSTRUCTIONS FOR TOPOGRAPHIC SURVEYS, 1:50,000. 1939.
- INSTRUCTIONS CONCERNING THE METHOD OF PRODUCTION OF TOPOGRAPHIC-GEODETIC, AIR-SURVEY, AND CARTOGRAPHIC MATERIALS, ETC. 1940.
- INSTRUCTIONS FOR PUBLISHING THE 1:1,000,000 USSR MAP. 1941.
- MANUAL FOR PREPARATION OF TECHNOLOGICAL PLANNING FOR MAP PUBLICATION. 1941.

9. USSR General Staff, Red Army, Military-Topographic Administration.
INSTRUCTION FOR RECONNAISSANCE OF LARGE-SCALE MAPS,
1:25,000, 1:50,000, 1:100,000. 1941.

(2) *Description of sets and general processes*

1. Albrecht, Capt. O.
WHAT HAVE WE LEARNED CONCERNING MODERN RUSSIAN CARTOGRAPHY FROM THE TOPOGRAPHIC MAPS OF THE USSR?
Chief of the Military Map and Survey Service, Reports, Vol. 2, No. 9, pp. 3-10. 1943.
2. Durnev, A. I., and Sudakov, S. G.
LAYOUT AND DEVELOPMENT OF THE ASTRONOMICAL-GEODETIC BASIC ACTIVITIES IN USSR. Twenty years of Soviet geodesy and cartography. Pp. 29-45. 1939.
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COMPILATION OF STATEMENTS OBTAINED FROM PRISONERS . . . CONCERNING THE CARTOGRAPHIC AND SURVEY SYSTEM OF THE SOVIETS. 1942.
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6. Kroemke, Bruno.
THE GREAT SOVIET WORLD ATLAS. Zeitschrift für Geopolitik, XIX, Heft. 7, pp. 332-334. 1942.
7. MAPPING OF THE AREA OF THE USSR. Geodesist, No. 11, pp. 1-7. 1939.
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9. Steppe, Maj. Ja. Ja.
THE NEW MAP, SCALE 1:500,000. Translation from Geodesist, Nos. 8 and 9, 28 pp. 1936.
10. TWENTY-FIVE YEARS OF STATE GEODETIC SERVICE IN USSR. Soviet State Geodetic Service, 1919-1944. Geodesist, pp. 3-24. 1944.
11. USSR, Chief Administration of Geodesy and Cartography (G.U.G.K.).
FUNDAMENTALS OF MAP-MAKING: HISTORICAL PART. Pp. 166-217. 1943.
12. Vinogradov, N. V.
DESCRIPTION OF THE MAPS READY FOR PRINTING OF THE FIRST VOLUME OF "THE GREAT SOVIET RUSSIAN WORLD ATLAS". Translation from Geodesist, No. 4, 17 pp. 1937.

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